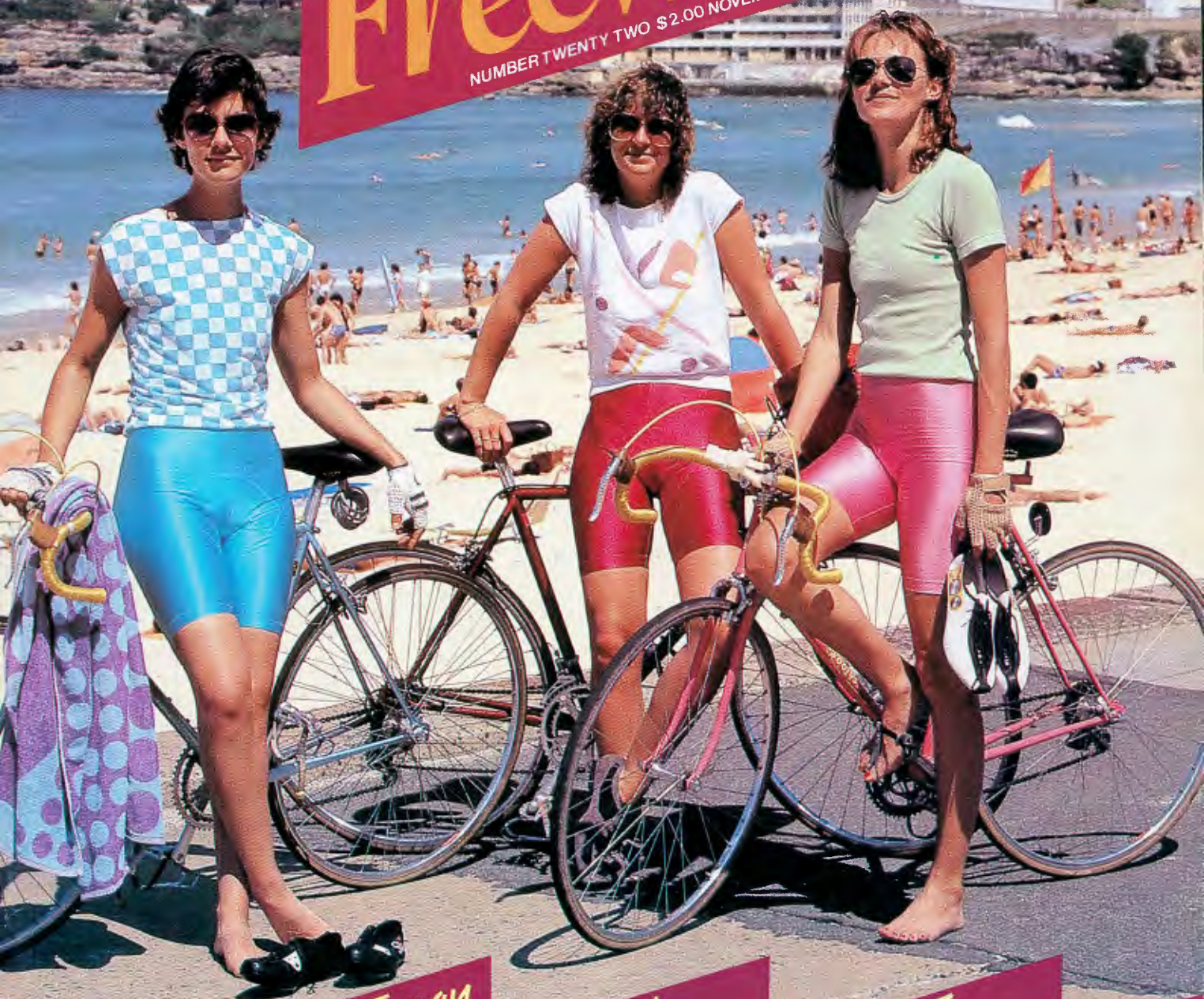




The Aussie bicycle mag

Freewheeling

NUMBER TWENTY TWO \$2.00 NOVEMBER/DECEMBER 1983



Biking in Japan

Cycling clothing pictorial

We test the amazing Moulton AM7

Road tests Fitness New products

How bikes are made

Registered by Australia Post — Publication No. NBH 2266.

NISHIKI

Built by Master Craftsmen



Olympic 12 Specifications

Frame Size: 21" 23" 25"

Tubing: Tange Champion No. 2,
Double butted Cro-Mo

Stem: S.R. Alloy Mod CT

H/bars: S.R. Maes Alloy, W/Cushion
Grip

Brakes: Dia Compe 630 QS, QR
W/Guides Drilled levers, Gum Hoods

Crank Set: Sugino GT, 52/40T
Drilled Rings

Pedals: S.R. Mod SP 150

Chain: Izumi, Black/Gold

Saddle: Ariake Anatomic

Seat Post: S.R., Mod CT-P6

Derailleurs: Suntour ARX

Shift Levers: Suntour, TM-10-L
Down Tube

Freewheel: Suntour 13/30 Gold
6SP

Hubs: Sanshin, small flange alloy,
Q/release

Rims: Araya, Alloy Mod 16A

Tyres: Panaracer 27 x 1-1/8 skinside

Colours: Anthracite

Miscellaneous: Brazed-on water
bottle fittings, Suntour G.T. ends,
Chain Rest on Seat Stay, Chain Stay
Protector, AH Brake Mounting Bolts,
Crystal Cables.

Custom Sports and Mixte models also available.

Available from Leading Cycle Dealers

Distributed by Repco Cycle Company

REPCO

Freewheeling

22



Cover photograph: Summer cycling gear. Three Sydney women show off the latest in freewheelin' fashion at Bondi Beach. Photograph this page: New fashion in the USA. Photo from the bright new US bicycle magazine *Bicycle Sport*. Subscriptions (12 issues) \$US22.50 to P.O. Box 315, Mount Morris, Illinois 61054 USA.

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Classifieds

Readers Ads

Rates \$6 per 25 words or less. \$0.10 for each additional word. Payment with order please.

Your advertisement will be seen by over 12,000 readers, their friends and fellow cyclists nationwide. For details of full list of headings write to **Classified Ad. Dept. Freewheeling Box K26 Haymarket 2000.**

TourMates

Accounting: A brand new service for bicycle tourists — *Hantrade/Freewheeling TourMates*.

In each issue a special classified section will be devoted to readers wanting to advertise for touring companions and trip departures.

If you are planning a tour and are seeking companions or want to join a tour, this service is for you. But here's the best part: the service is free.

You can participate by simply writing your name, address and notice enclosing a stamped addressed envelope.

Your *TourMates* advertisement should be kept to 30 words (excluding name and address.) Ads over 30 words cost 20 cents per additional word (please include payment with ad.)

All ads published will need to contain your name and a contact address or telephone number. Ads received without name and addresses included will not be published.

So, if you are tired of the same old crowd use the *TourMates* column to find new touring people and places.

Send your ad enclosing name, address and a stamped addressed envelope to *Hantrade/Freewheeling TourMates Box K26 Haymarket NSW 2000.*

I am planning a tour from Perth to Wodonga for the Autumn of 1985. The general plan is to take the train to Perth, spend a few days examining the America's Cup, then cycle east covering 150 kilometres each day with a rest day every five days.

I have a back up vehicle and intend to stay at motels and generally aim to make the trip a memorable one.

I would be interested to hear from interested cyclists who possess a Goon style of humour and would like to be involved in such an adventure.

Ken Dyer, 29 Tourmaline Drive, Wodonga 3690. Tel: (060) 24 7271.

Three week tour of New Zealand. Arriving Auckland Dec. 9 '83 and departing Christchurch, Jan 2 '84. Seeking tour mates for all or part of tour. Contact John Harris 060 55 5300(bh).

Cycling partner wanted for tour of India. 2 months cycling from mid Feb, '84. Write Glen Hunter, 5 Westbourne Street, Lindfield 2070

If you are all packed up and don't know where to go, consult the Freewheeling Touring Service for route guides and information on the best touring destinations in Australia. Send for a free catalogue

Wanted for Modelling Opportunities: Young men and women 18 — 38 are needed for occasional modelling assignments with bicycling themes. Only experience necessary: the ability to comfortably ride a bicycle. Sydney region. Fee paid. To register your interest, send recent photo and your height measurement to: Freewheeling Publications, Attention: The Publisher Box K26 Haymarket NSW 2000.

Dealers Ads

MAIL ORDER

The Num-Bum Protector. A sheep skin bicycle seat cover. Suits standard and racing saddles. Comfortable, durable washable. \$20 postage paid. Money back if not satisfied. Send cheque or M/O to C & N Locker, Happy Valley, Adamindaby NSW 2630.

Outdoors cooking the safe, speedy and silent way with high quality stove sets by Trangia of Sweden. Stove sets in two sizes with kettles and accessories to fit are now available. Delivered direct to your door by Freewheeling Mail Order. Use order form in this issue. Free catalogue sent with all new purchases.

Repairing your bicycle can be fun and save you money. We have the best Do-it-yourself bicycle maintenance books currently in print in our big bicycle information and accessories catalogue. Send for your free copy today. Freewheeling Mail order Box K26 Haymarket NSW 2000.

EQUIPMENT FOR SALE

Frame building jig for tandem or solo frames, plus tandem tubing and many other components at below trade prices. Must sell, phone Rob (08) 386 0088.

QUEENSLAND

Pro-Am Cycles Southbank. Brisbane's new bicycle show room. Call in and discuss your cycling requirements with Johnny Whip. Or phone (07) 44 2894. Corner of Grey and Russell Streets, South Brisbane 4101.

TASMANIA

Rent-A-Cycle Tasmania 10 speed, low gear. ing, all frame sizes, ladies or gents. Completely equipped for touring. Postal bookings accepted. Six years hiring experience. Brochure, rates, your questions — 138 St. John Street, Launceston Tasmania. Phone: (003) 31 5839.

Freewheeling is now accepting classified advertisements from Australian Bicycle dealers. Your advertisement will be read by our 12000 readers nationwide. Ideal for Mail Order dealers as well.

Rates: Per issue 25 words or less \$6.25. \$0.20 for each additional word. Minimum 4 issues. Six issues 15% discount. Payment with order. Deadlines Issue 21, 8th August; Issue 22, 10 October; Issue 23, 5 December; Issue 24, 6 February; Issue 25, 9 April; Issue 26, 4 June.

Mail to Classified Ad Dept. Freewheeling BOX K26, HAYMARKET 2000.

National Bike Events Calendar

NOVEMBER

Saturday/Sunday November 5/6. Convivial Cumberland's Cattai Capers. A gathering of Sydney cycling clubs and touring cyclists will be held at the Cattai State Recreation Area at junction of Hawkesbury River and Cattai Ck, 12 km from Windsor. Ride from your area and meet by mid-afternoon at Cattai. Organising club the Cumberland Cycling Club is providing an evening of entertainment and great socialising. Bring food, tents, etc. Swimming excellent. Contacts Maurice Stanton (02) 682 4634, Barbara Darmanin (02) 869 8834.

7 November to 10th Melbourne City Square, Trade and Safety Promotion. Organised by the Victorian State Bicycle Committee the promotion will feature displays of new bikes, safety equipment displays daily helmet testing, fashion parades and an attempt on the world cycle roller record. A full programme is planned for the four days including daily lunchtime events. For info. contact; Bill Dix, State Bicycle Encouragement Co-ordinator, Tel. (03) 617 4666.

Bike Ride for a Better Non-Sexist World. A bike ride for men wishing to show some support for the forthcoming women's action against the United States CIA base at Pine Gap N.T. The ride will leave Sydney Town Hall at 11am on November 11 and reach Canberra on November 17. Full details of the ride can be obtained from Steve or Chris on (02) 212 4538. The ride is being organized by the Inner City Mens Consciousness Raising Group.

Sunday 20 Nov. The second *Freewheeling* Sydney to the 'Gong Bicycle Tour. 85 km, 1000 riders. Entry form and details elsewhere in this issue. Morning tea and return rail fare included in price. Entries close Friday November 4.

DECEMBER

December 5 Monday evening 7.30 p.m. Brisbane Cycle Touring Association meeting will be addressed by *Freewheeling* publisher, Warren Salomon who will show slides and talk about Australian Cycle Trails. He will also present plans for the big bicycle events to take place in 1988. Red Hill Community Centre, Charlotte Street, Paddington. All welcome.

1984

Melbourne Bike Week '84. This year held in autumn. A weeks activity starting on the 26th March and finishing on the 1st April. Major events: March 25 National Heart Cyclothon, April 1 Michelin Autumn Daytour.

April 1 1984 Melbourne goes MAD again! The second running of the Michelin Autumn Daytour will be the closing event in Melbourne Bike Week 1984. This 100k ride is open to all riders. There are prizes too. For details watch for announcement in Jan/Feb issue of *Freewheeling*.

How to Advertise in this Calendar

You can notify us of your events by writing to *Freewheeling* National Bike Events Calendar Box K26 Haymarket NSW 2000, or by phoning Warren Salomon on (02) 264 8544. We are not able to list tours for club members only but will mention the important work of clubs in the magazine from time to time and as well publish lists of contacts.

New Products and Ideas

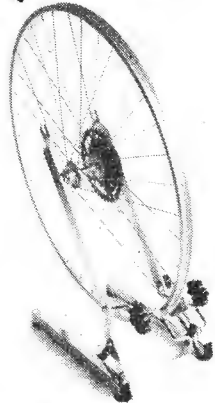
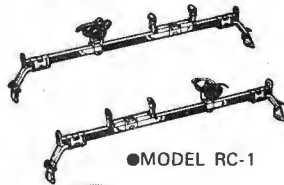


In the basket?

People who believe their bicycles should be a practical tool for daily use will find the new folding bike basket from Goto of Japan a necessary addition to their machine.

This black plastic coated wire basket can be mounted to all kinds of rear rack is easily collapsible and folds flat in the vertical plane. The basket is designed to accommodate the common supermarket bag and can be lifted to either side of a rear mounting carrier rack.

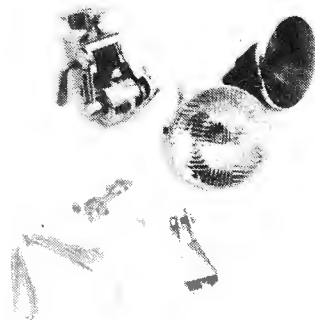
dealers for the following equipment. IKU and Union Halogen headlight globes; Cat Eye sensor rings and handle bar mounting bracket and cable; Krypton filled light globes.



Useful Accessories

Minoura of Japan have recently released a new range of practical bicycle accessories to perform a wide range of useful tasks. The inexpensive bicycle truing stand is portable and will true wheels of most popular sizes. The rack is semi-collapsible for efficient storage when not in use.

Lightweight roof racks are also available and are made from aluminium box tubing to fit all types of motor vehicles. The racks are designed to take two bicycles and fix saddle and handle bars to specially designed quick release attachment points.



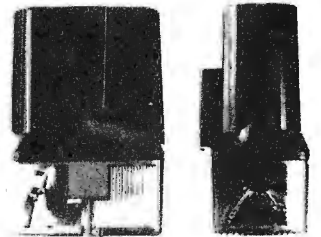
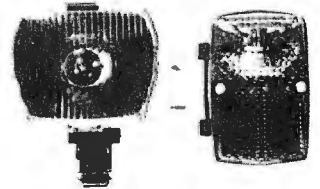
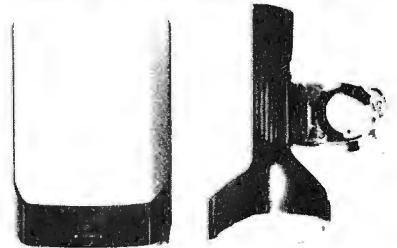
Krypton Lights

The immensely popular Sanyo Dynapower lighting

generator is now available complete with new design headlight and tail-light units.

The set is packaged by Malvern Star and features the new brighter Krypton light globes which use an inert gas filling instead of the usual vacuum.

The front and rear light units have a large 83 mm diameter and project a well designed and powerful beam.



Bigger Battery Lights

Cat Eye of Japan have introduced a new front and rear battery light set. The HL200 and TL200 are each powered by two D cells and deliver a good light beam. The front light is easily removed and mounted by any size handle bar.

The rear light has a standard reflector built into the lens and mounts to the rear stay on either side. The light can be quickly removed from its bracket with the aid of a coin.

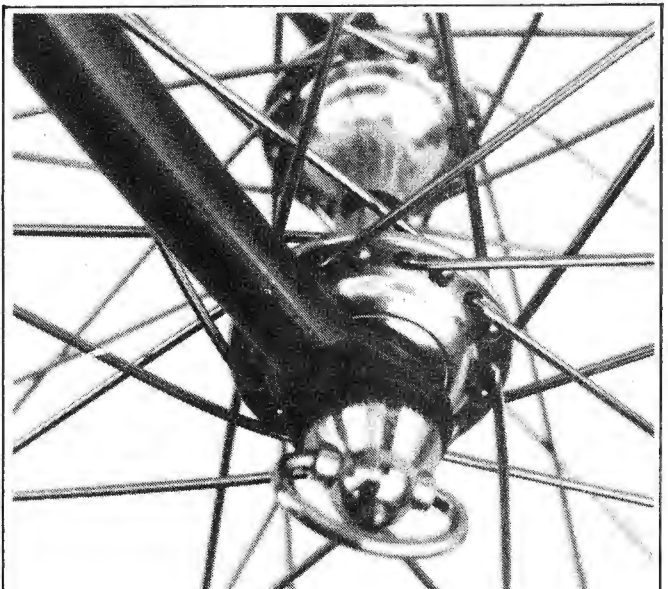


Cyclo computer

From Holland comes the IKU cyclotronic bicycle computer. This compact device measures distance, speed and elapsed time and calculates maximum and average speed. The Cyclotronic makes a big advance on other models by not requiring batteries for continuing use. The power is generated by the turning wheel. The meter has seven functions and two control buttons and is fully removable from the bike.

Replacements available

Replacement units are now available at progressive



HOSHI
Quality spokes and nipples
from Japan

HOSHI INDUSTRIES CO. LTD.
No. 1-40 Minarto 2 - Chome,
Izumisano City Osaka Japan

Trade enquiries: Repco Cycle Company Melbourne Sydney Brisbane

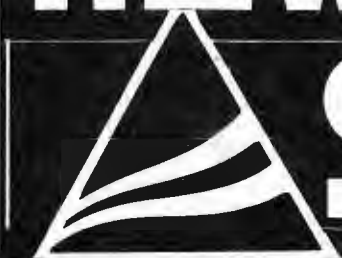
SUPERBE PRO **RACING TOURING** **CYCLONE M-II**



MICRO LITE & AERODYNAMICS

SUPERBE

THE WORD SAYS IT ALL



SUNTOUR



Southern Vets

Adelaide has two veteran cycling groups, one amateur and the other professional. (A 'veteran' is anyone at or above the age of 35). The amateur group, the Southern Districts Veteran Cycling Club, is a vigorous and enthusiastic body that is growing steadily in size and stature and has already achieved two national gold medals in its brief 3 year life.

The club started in 1980 mainly to meet the need of women and veterans who wished to race, but who could not afford the training time necessary for senior competition. If that was all it offered then the young club might well have foundered. However the club's three guiding lights, Jim Clegget, Bob Goddard and Bob Ritter were wise enough to emphasize the social enjoyment aspects of club life and as a result the group is prospering.

Indicative of its philosophy of racing for pleasure is the virtual absence of trophies. The entry fee is a mere 50 cents, and the only formal recognition of a win or place is one or two points toward an eight-weekly shield.

Despite this lack of material gain, or perhaps because of it, the racing is close and keen. People generally find the heartfelt congratulations of friends more than adequate reward.

To provide an opportunity for all, most races are handicaps and vary in length from 20 to 40 km.

The old church near McLaren Vale, 40 km south of Adelaide, serves as clubrooms. There are a variety of challenging courses amongst the vineyards of this scenic area, although most competitors seem to see little of the beauty during a race.

The club's social life succeeds on the spirit of warmth surrounding races. Most people seem to enjoy the barbecues, or the timeless pleasure of a picnic lunch beneath the churchyard's old trees. Those who are less competitive go on tours through the vineyards, returning at about the time the racing ends.

Perhaps a unique aspect is the way the club helps young riders. Non-vets who want to experience racing are welcome for 3 months. After that they either join the amateurs or drop out of racing.

The numbers have grown from a humble 6 to a consistent 30 plus in races, and the steady application of membership is quiet testimony to a successful formula.

The high standard of racing is indicated by the fact that Brian Gould took out the Australian Vets I title in 1981 while the president, Bob Ritter, took out the Vets II title in Sydney this year.

For all those interested, the clubrooms are in Short Road, McLaren Vale, and all persons are assured of a warm welcome to a club that has many satisfying qualities.

SAFM Bike Hike

To help celebrate its third birthday, SAFM, a local FM radio station, held a 'bike hike' around the city. The first event of its kind in the state, it was a great success and the station has indicated it will support another ride next year.

Rymil Park was the starting point at 10.00 a.m. and despite overnight rain and a poor forecast, over 2000 people turned up.

The park provided a colourful scene: some riders were dressed in period and fancy dress costumes, and the tents of various cycling and fitness groups were squeezed in amongst the thousands of bikes.

The start was marked by the release of thousands of balloons, and the congestion soon eased as faster riders set their own pace. The course was not hard or long — a deliberate decision to attract the maximum number of people — and all had completed the 20 km within 2 hours.

The organisation was excellent, with marshalls from the South Australian Touring Cyclists Association, in specially printed sweatshirts, guiding the riders. At times the riders' holiday spirit over-

took discretion. The sight of riders blocking the entire road, 3 and 4 abreast, was not one calculated to help public relations with motorists or the police.

At the rides' end in the park, food, drink and entertainments completed a great day. The feeling of everyone was that they will all be back next year. Certainly the organizers hope so. They are anticipating 4000 for what will become a regular annual event in Adelaide.

Potter with Peter

This is the catchy title for a series of rides organized by Peter Pye for people with an interest in both relaxed cycling and the history, architecture and feel for their city.

Some of the rides in the first series include 'Old cottages and unique decor', 'Golf courses and water' and 'Across the Torrens'. The

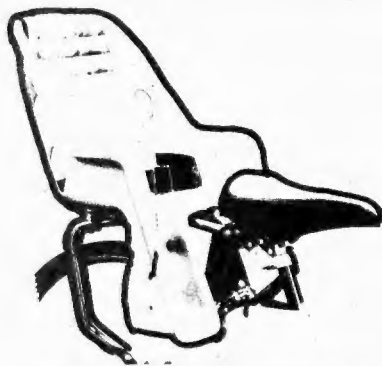
names give a good indication of what Peter is attempting to programme.

The rides are held on alternate Saturday afternoons to fill a gap in the calendar of South Australian Touring Cyclists Association, of which Peter is a member. The first of the rides was an immediate success. Further tours are attracting large numbers.

They have been filmed for television broadcast and this sort of exposure can only help increase future response.

Each tour is about 40 km long, run at an easy pace taking 3-4 hours to complete. The programme is planned to go to December 10, then resume in April when the weather is cooler.

The rides depart from the Victoria Square fountain at 1 p.m. on alternate Saturdays commencing October 1. Peter is to be congratulated for his initiative and enthusiasm in providing for an obvious need in the cycling community.



ANOTHER WORLD IMPORTS

Agents for Troxel Bicycles Products and Wonderlight of the U.S.

Troxel De lux Baby Carrier
Troxel Standard Baby Carrier
Troxel Cushion Comfort Saddles
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All Troxel Products are guaranteed for 12 months.

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South Australia: Leisure Cycles (08) 268 9044
Tasmania: Leicester & Elliot (004) 24 3342
West Australia: Ricardo (WA) (09) 445 1601
Queensland: Jim Harvey Enterprises (07) 376 4775
Northern Territory: Leisure Cycles or Another World Imports

Touring Style: Left: A complete outfit for the touring cyclists: Bell Tourlite helmet; Cannondale top with two button collar; Cannondale shorts feature large pockets with flap, high waist, cotton polyester fabric with 3% lycra, synthetic crotch insert for comfort and quick drying; Cannondale shoes designed for touring on and off the bike. Centre: Cannondale touring top with zip collar; Black bri-nylon cycling shorts; Bata Bikers canvas cycling shoes with stiffened sole. Right: Skid Lid touring model helmet; Derosa zip front wool/polyester jersey; Cannondale Touring shorts; Cannondale touring shoes. Clothing and bicycles courtesy of Clarence Street Cyclery Sydney.



Freewheelin' fashion

Clothing that lets you get the most from your bicycling

There's no doubt cycling as an activity needs specialised clothing. New fabrics and designs have taken cycling clothing out of the realm of the track racer and made biking gear more fashionable. In the following pages the *Freewheeling* cameras take a look at clothing for the modern bicyclist.



Summer cycling is cool and comfortable in coloured lycra skin suits with bib or swim suit style tops. Suits all feature generous chamois insert and can be worn with top or jersey if the weather turns cool. Centre: Shoes by Duegi, crocheted leather gloves. Right: Touring shoes by Rivat. Clothing and accessories courtesy of Woolys Wheels, Sydney.

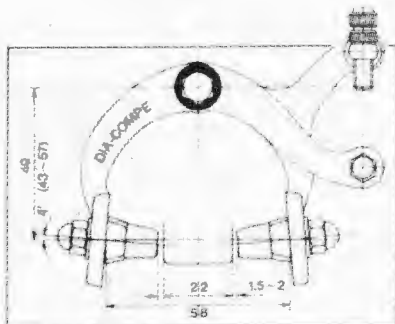
"GO FOR IT"

Get The Racing Spirit.

Introducing a new side-pull brake from Dia-Compe. On the elegant form, you will discover both excellent performance and superior quality.

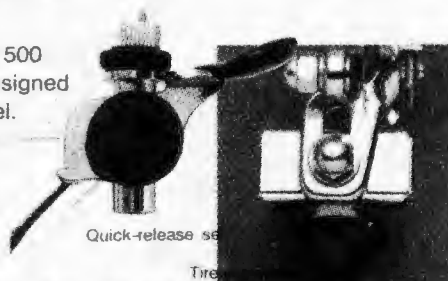
Get your racing experience from Dia-Compe 500.

The New Model **DIA-COMPE 500**



Current Dia-Compe #500 brake has been re-designed to a new racing model.

Optional parts :
Tire-supporter and
Quick-release set.



SIDE-PULL CALIPER BRAKES DIA-COMPE 500

AVAILABLE FROM LEADING CYCLE DEALERS

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Repco Cycle Company
Melbourne Sydney Brisbane

REPCO

Freewheelin' fashion



Cycling comfort in stretch lycra clothing by Assos of Switzerland. Left: Lycra shirt features absorbent lining, zippered collar and rear pockets, various colours; lycra knicks feature unique shaped padded chamois insert and drawstring waist; Flashy cleated shoes by Sidi. Centre: Striped lycra top with low zippered collar and rear pockets; Black lycra knicks; cleated shoes by Sidi. Right: Lycra bib shorts with padded contoured chamois insert; shoes by Assos.



SPECIALIZED TURBO TIRES

SPECIALIZED TURBO tires are the finest, most sophisticated clincher tires made.

TURBO/S

Light and fast, the TURBO/S is designed for racing and high speed performance. The hand-selected materials used in the construction of the TURBO/S are combined to create a sub-200gm racing clincher that's turning the heads of even the most confirmed tubular connoisseurs.

The TURBO/S offers the ultimate in clincher performance. Whether you're riding for fun or riding for records, ride a TURBO/S for the kind of performance you thought you couldn't get with a clincher.

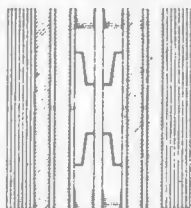
TOURING TURBO

We created the TOURING TURBO for the touring rider who wants the performance of tubulars without their maintenance and expense. We feel that this is the best performance touring tire ever made.

COMMUTER TIRE

The name says it all. The COMMUTER tire offers durability and performance at an economy price. For an extra measure of fun in the daily battle against city traffic, try the workhorse tire with a thoroughbred lineage—the SPECIALIZED COMMUTER.

We use a tough nylon casing with a beefy rubber sidewall for durability and strength. The tread has a deep ribbed pattern for the excellent lateral stability needed for confident maneuvering in heavy traffic on urban roadways. Now, even the casual rider can step up to SPECIALIZED performance.



TOURING TIRE

The TOURING tire is the backbone of our line, offering exciting performance at a reasonable price. Like all our road tires, it features a raised center ridge which minimizes rolling resistance and extends tire life by hundreds of miles. A deep herringbone tread and ribbing at the sidewalls provide road-gripping security for high-speed cornering. The TOURING tire uses our #36 (36 threads per inch) premium nylon casing which is the foundation material used in all our heavier duty tires. This casing is very supple, yet extra strong to resist cuts and bruises when the going gets rough. A double casing layer under the tread gives you an extra measure of puncture protection.

TOURING X

BICYCLING MAGAZINE's test of clincher tires rated the TOURING X "Best" for rough roads and gravel over every other tire tested. For all-round heavy duty use, it can't be beat.

The TOURING X uses our extra tough #36 nylon casing and a special heavy-duty tread. The thick center mileage ridge is textured with a deep "Z" pattern for traction. The extra thick herringbone tread gives good gripping on rough or wet surfaces. Double casing lap layering under the tread helps ensure against punctures.

A TIRE FOR EVERY PURPOSE

MODEL	BEST USE	SIZE	PSI	TPI	GRAM WT
TOURING	General, Touring	27x1	95	36	300
		700x25c			300
		27x1 1/8			325
COMMUTER	Commuting	27x1 1/4	85	25	500
TOURING TURBO (folding)	High Performance Touring/ Training	27x1 1/8	95	66	250
		700x28c			250
		27x1 1/4			280
		700x32c			280
TURBO/S (folding)	High Performance, Racing	27x1	100	106	195
		700x25c			195
TOURING X	Heavy Touring, Tandems	27x1 1/4	95	36	400
		700x32c			400
EXPEDITION	Expedition Touring, Tandems, Rough Dirt Roads	27x1 1/8	75	36	475
		700x35c			475

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SPECIALIZED

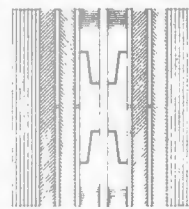
SPECIALIZED TUBES

A tire is only as good as its tube. That's why the careful crafting we use in our tires is used to produce our fine inner tubes. A high quality valve is carefully molded into the tube and reinforced for dependability and long life. Our valves easily fit into all rim profiles to eliminate blowout at the valve, a common problem with other inner tubes. Our rubber compounds are the highest quality for suppleness, durability, and long life.

- 700x25c to fit 25c/1" tires (ultralight, 75gm)
- 700x25c to fit 25c/1" tires (90gm)

EXPEDITION TIRE

The EXPEDITION tire offers the largest profile available for a wheel which will fit in a conventional 10-speed frame. We've designed this tire as an extra heavy duty performer for tandems, expedition touring, or rough dirt road riding. Our heavy duty casing is matched with a very thick herringbone tread and topped off with our raised center ridge with a gripping tread for extra traction.



SPECIALIZED

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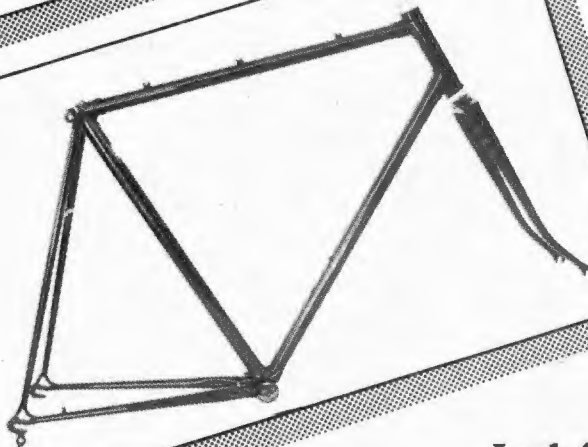


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INSIDE JAPAN

Japan, that island country away to our north, is an enigma to most Australians. In this final part of our look at the modern Japanese bicycle scene, John Morris, a resident for nine years, talks to Warren Salomon about bicycles and touring in that incredible land.

PART 2

THE REAL JAPANESE BIKE

A majority of the bicycles ridden by modern day Australians are manufactured in Japan. Naturally one would expect that we ride similar bicycles to the Japanese. Not so. Our bikes are basically U.S. bikes made in Japan, while the Japanese ride French bikes manufactured by Japanese companies. These corporations also supply every major cycling nation in the world with whole bicycles and parts to suit every ethnic preference.

Adult cycles

By far, the biggest influence on the Japanese domestic scene is French. The *Randonneur* and *Cyclo-Camping* models are exact replicas of French touring bikes while the *Sportif* type of fast lightweight sports machine is exactly like the club sports model so popular in France and Italy.

The European influence is more apparent in the selection of wheel sizes for popular models. 700c wheels are most common on lightweight ten and twelve-speed *sportif* models while 26 x 1 3/8 is the standard for touring bikes. The 27 inch wheel has only recently become an available option. The use of 27" wheels is only a recent trend dating from the early 1970's when the Japanese began to supply the North American market in earnest.

Touring bikes

There are three possible reasons why the French type touring bike so popular with the Japanese has not taken on in Australia. The first relates to our obsession with all things American (the 27" wheel ten-speed of the 1970's was a U.S. marketing in-

vention). Secondly this type of bicycle has never been adequately marketed here. Thirdly, following the virtual extinction of Australian bicycle manufacture and usage in the 50's and 60's, the touring scene has only recently become re-established. Importers lacking a fundamental understanding of touring have imported only the newer American style of bikes rather than the established European and Japanese designs.

The Bridgestone Bicycle Company is Japan's largest domestic manufacturer. The sheer number of models offered in its catalogue is an indication of the size and strength of the Japanese cycling scene.

Its adult lightweight and touring bicycles are showcased in a separate touring/lightweight catalogue.

The Atlantis and Eurasia brands offer *Randonneur*, *Cyclo camping*, *Diagonale* and *Sportif* models. The Atlantis AC-545 is a long distance cycle camping bike. This kind of bicycle is most commonly used by the frequent Japanese who tour the Australian outback.

The bicycle comes fitted with sturdy steel (or most recently alloy) racks which support canvas and vinyl pannier bags in the low mounting position. Brakes are almost always cantilever type and a generator lighting system is securely fixed and wired into the frame and mudguards.

All of these bikes have well thought out triple (15-speed, 18-speed) gears with a preference for half-step plus alpine gear ratio combinations.

The wheels are of course 26 x 1 3/8 alloy with strong balloon tyres. These tyres, depending on inflation pressure, give comfortable effortless touring over a wide variety of road surface conditions. The Japanese laugh at the new Mountain bike craze currently underway in the U.S.A. Standard Japanese *cycle-camping* or *randonneur* bikes have long been used by adventuresome youths in rugged mountain terrain for many years now. As most Japanese are of short build (the Atlantis *cyclo-camping* bike is only available in 520 and 580mm frame sizes) their current touring bikes perform as well as the newer mountain types.

For occasional tourers, *Randonneur* or *Diagonale* type bicycles are the most popular. They differ from the *cycle camping* bicycle in that they do not have full pannier racks fitted. A small handle-bar bag support is generally mounted off the cantilever brake mounts. Gearing is often higher and some models substitute brazed on centre-pull brakes for cantilever types. A generator lighting system and mudguards is always considered necessary equipment on this type of bike.

Faster models substitute 700c wheels for the balloon 26 x 1 3/8 tyres and rims.



Sports models

Lightweight sports type bicycles are becoming more popular in modern Japan in spite of the constraints on their use. As mentioned in the previous part of this look at Japan, there is a stigma against racing type machines due to the association with Keirin racing and its gambling connection.

Young adults influenced by the American style of cycling are at the forefront of a move back to lightweight sports bicycles. The most common non-competitive racing type is called the *Sportif*. This bicycle type almost always 700c wheels though 27" types are now available.

The *Sportif* usually comes with or without mudguards and invariably has either ten or twelve-speed gears fitted. Brakes used are either brazed on centre-pulls or good quality side-pulls on the dearer models.

Bicycles fitted with mudguards often fall between the true *Sportif* and *Randonneur* types. One of these is also Bridgestone's biggest volume seller: the Roadmap model. It has mudguards but lacks a generator lighting system. The side-pull brakes and black/silver one piece alloy crank set and new platform type pedals give this bike a look which most closely resembles the bike most Australians own. It is available in a wider range of frame sizes than other models and has either 26 or 27 inch wheels fitted.

Commuting

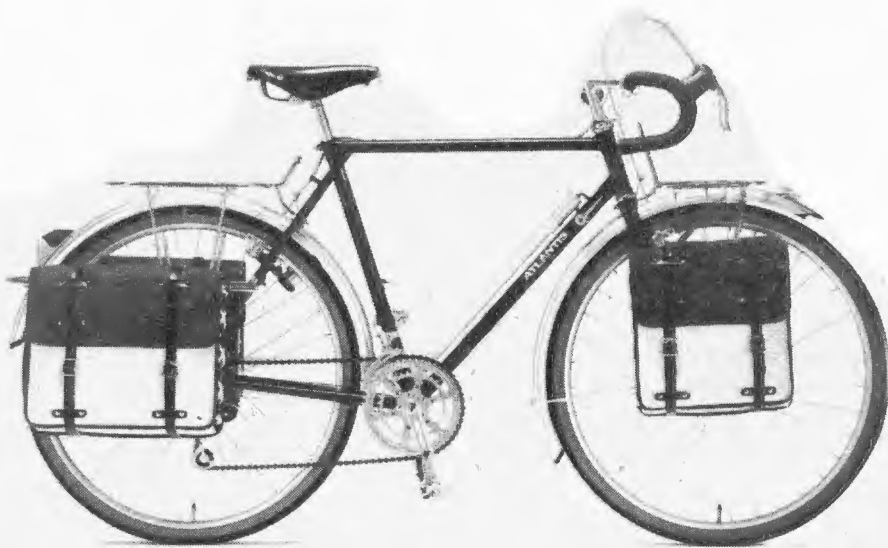
The Japanese are great bicycle/train commuters. A common problem for the authorities in some areas on the outskirts of large cities is 'bicycle pollution'. This usually occurs when use is greater than the parking facilities provided.

The type of bicycle used can vary from a standard single-speed to a flashy ten-speed.

One model specially made for and marketed to the commuter is the Bridgestone Monte Carlo. This awesome bicycle is available in a variety of wheel rather than frame sizes. It comes fitted with an impressive lighting system, chain-guard, Positron five-speed gears and steel carry racks. Different versions of these styles are available for young and old. Some feature totally enclosed chain, shopping basket, rear kick-stand, and front and rear turn indicators.

Once these bikes leave the showroom floor they are seldom found in good working order. Most commuters would prefer their bikes to be maintenance free and consequently very little work other than basic repairs is ever done on them.

Some models like the Moustache and Tuxedo are as close to low maintenance as possible. These resemble the standard Dutch bike with its totally enclosed chain and rod stirrup brakes.



Left: The Japanese are great commuters, however specialised city-oriented machines like this Monte Carlo model make up a small portion of the bikes sold. Most commuting is done on 'family' type bikes. Right top: The standard touring bike in Japan is the Cyclo-camping type with 26 x 1 3/8 tyres and large low-mounted pannier bags. Mudguards and lighting system are standard. Right centre: The Randonneur bicycle is similar to the classic French design. Mudguards lights and brazed on centre pull or cantilever brakes are standard equipment on this day touring/recreational machine. Right bottom: The Sportif model is becoming increasingly popular as more adults take up cycling. 700c tyres are very common on this style bike.

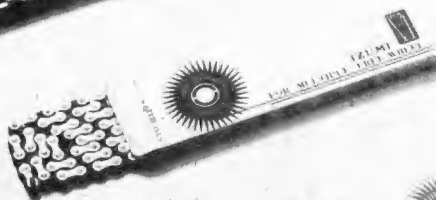


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Teenager's and children's bikes

Teenage girls are a very large bicycle user group in Japan. Models directly catering for them as well as young children's bikes make up a large proportion of the total bicycles sold on the Japanese domestic market.

The Kiki and Rosy models are young fashion oriented machines. They feature colour matching trim with designer logos printed in every possible location.

Once again the bikes come fitted with mudguards, generator carry racks and fully enclosed chain making them useable at any time of day and in any riding condition. Some model sub-types have rear wheel disc brakes and front freewheel type chain-wheels fitted.

Children's bikes are similar to most U.S. or Australian machines with the exception that BMX bikes are uncommon. Even the film ET failed to introduce this type of machine to the young and older Japanese bicycle users. Children are not as large a user group as in Western countries. This situation is generally caused by the congested road conditions and the lack of safe unsupervised riding locations. Young kids in Japan who do use bikes usually do so only on supervised family outings.

The domestic bicycle market

By Aussie standards the Japanese domestic bicycle market is enormous and the individual cyclist is better served than in Australia.

There are 37,000 bicycle outlets serving a total population of 115 million, yet 15 million Australians are only served by about 1,000 outlets.

This is partly due to the greater use of bicycles in Japan. The more compact nature of the country should allow for quicker distribution but greater congestion is often the outcome. Still, the economies of scale offered by such a large cycling scene

mean that the whole bicycle scene is so much better promoted in Japan than here.

As in most western countries a large number of new machines are sold in department stores though the proportion is probably lower than in Australia. Japan has a strong network of specialist dealers. Most sell only bicycles though in some cases motorcycle dealers will sell and service both forms of two wheeled machine.

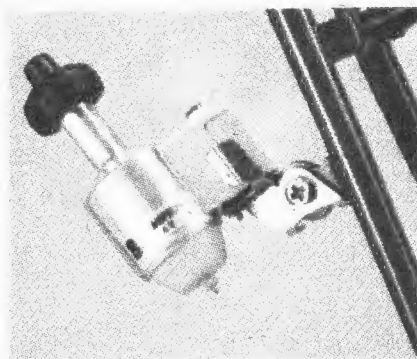
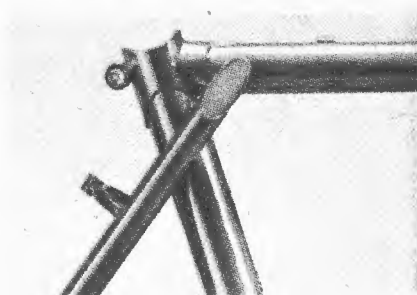
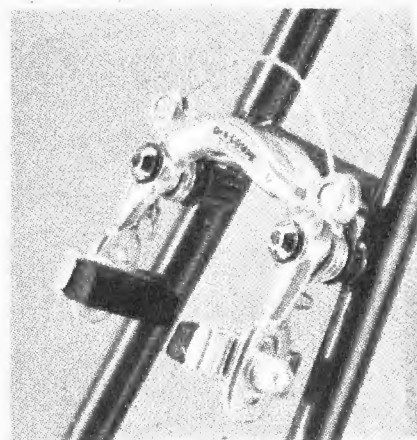
Bicycle boutiques have even sprung up in the expensive shopping district of Tokyo in recent years. These cater for the Japanese fascination with things European and mostly sell only high quality French and Italian bicycles, components and clothing.

Buying a bike in Japan

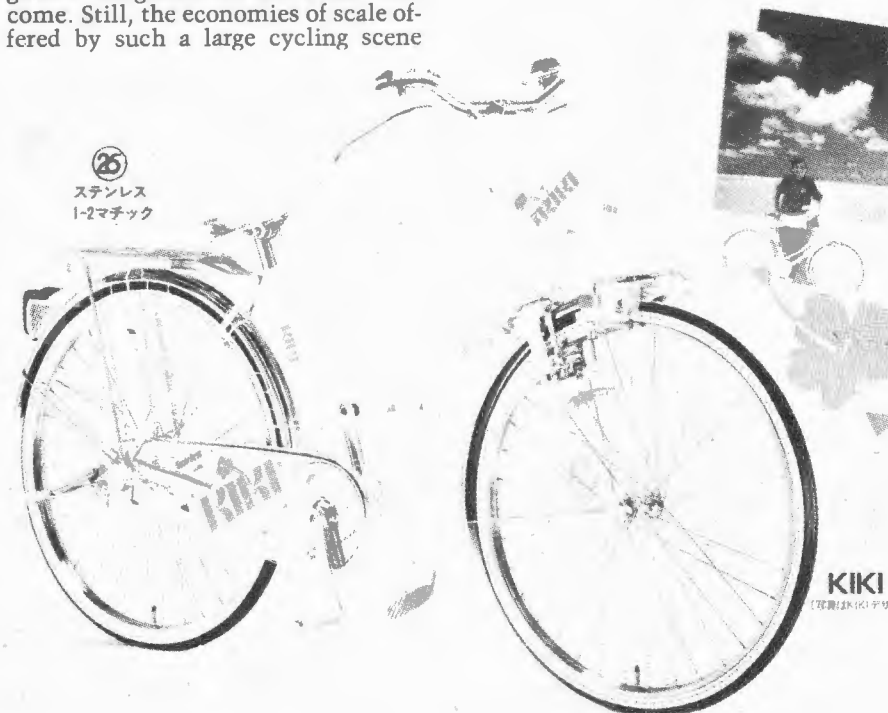
The type of bicycle exported from Japan to the U.S.A. and Australia is extremely difficult to obtain in Japan. Most domestic models are sold in a limited range of Japanese frame sizes (520 — 560mm) so for tall Aussies even an off-the-floor bicycle will be difficult to buy. The few shops in Tokyo who cater for western needs will often make up western frame sizes to suit but some notice and a deposit will be needed. This often necessitates a longer stay in the country.

Generally prices are slightly cheaper depending on exchange rate fluctuations and finish is always top class. The Japanese demand a very high finish on their bicycles. Brazed on centre pull brakes, generator, mudguard, water bottle and rack mounts are all fitted as standard to touring and randonneur models. Paint and chrome finish is always of a high standard.

The Bridgestone Kiki is one of the most popular styles of bicycles marketed to the large teenage market.



Features demanded by the Japanese on their domestic models. From the top: Brazed-on centre-pull brakes; interesting frame treatment on small size touring frame; French style triple chainwheel set; frame mounted generator. Wiring is often run inside the frame.



PART 3

TOURING

IN JAPAN



A different culture

For Australians the Japanese countryside offers a wonderful opportunity to experience a culture so different in many ways to our own. Though the city dwellers are increasingly influenced by the west, the rural dwellers stick closely to their traditional ways. In some areas the people see Europeans only on very rare occasions.

The big problem for independent tourers or groups of people wishing to explore Japan by bike is mastering the language. Away from large towns directions are in Japanese characters only, so finding one's own way around can be difficult.

Good touring maps are being produced by the Bridgestone Company and these show roads and areas excellent for touring. No English version of these is yet available but the universal language of maps makes them a useful tool if used in conjunction with an English language map.

Getting around

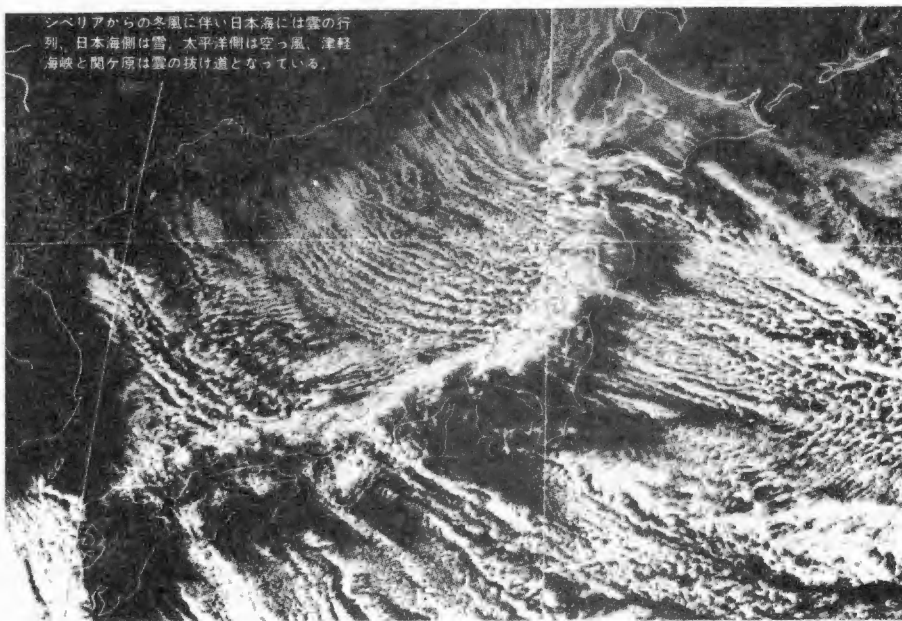
The Japanese rail system is top class and works well for bicycle tourers.

Bicycles can only be transported on trains if they are properly bagged. Bicycle tourers also have to present a Japan Cycling Association card at the station to take their bike with them. JCA issues membership to foreigners and travel cards can be obtained from them at the Hall of Cycling in Tokyo. They also provide a detailed booklet showing the disassembly and bagging procedure.

Climate

Though most parts of Japan are at a similar latitude to our country the climate there is much colder.

The heat and humidity of the monsoons make summer an unattractive



Above: A typical winter cloud pattern over Japan. This satellite photo shows the effect on Japan's climate of its rugged central mountain ranges. Below left: Tourers with bicycles securely bagged are about to board one of Japan's efficient trains. Below right: Good roads for touring in Japan are found in the more rugged mountain region and in the far south and north islands.



cycling season. Winter too is difficult as most areas of the four main islands receive snow. The west coast of Honshu (the main island) is completely snowed in during winter.

The best seasons to tour in Japan are Spring and Autumn. Cherry blossoms in Spring and coloured leaves in Autumn make spectacular displays across the countryside. The holiday period in later July to late August is the most congested time for any form of travel inside Japan.

Food

For health food fanatics it would be better to eat white rice than brown. The reason for this is insecticides. If eating only white rice is not to your liking buy a quantity of oats (omugi) at the rice shop and mix it with your rice.

The sale of rice in Japan is a government monopoly and it can only be bought at rice shops (kome-ya).

Rice the staple food is available in its granular form or processed noodles. Pure vegetarian food is difficult to obtain as is western food, which when available, is very expensive.

It is therefore wise to eat ethnic

when touring Japan. This will usually cost between ¥2000 and 2500 per day.

Accommodation

Camping is uncommon in Japan though there are some campgrounds in some areas. Camping out in unspecified areas is not permitted and so it is best to stay in one of the many Minsgu or home stay type guest houses.

These are cheap by Japanese standards and offer home style accommodation with good food and hospitality. There are many of these throughout rural Japan and the Japanese Tourist Authority publishes guide booklets detailing their locations.

Youth Hostels are also reasonably common and there is at least one of these in every major town.

Roads

Japan has a system of freeway roads which exclude bicyclists. Other good roads are not hard to find but linking them up near urban areas can be difficult. The best touring roads are therefore in the least populated areas (such as the northern island Hokkaido and in the south).

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The backbone of the main island Honshu consists of very steep mountain ranges. Roads in this part of Japan are not as steep as one would expect. Grades are usually good with an 8% slope being considered steep and 10% grades rare. Some toll booths will not allow cyclists through and neglect to advertise this at the start of the section. To avoid this problem it is best to phone ahead to the toll booth at the end of the section and check.

Touring Guides

The Japanese Tourist Authority issues many booklets in English for the tourist though none are directed specifically at the cyclist. A good western type book on Japan is the Lonely Planet guide which has a short but useful section on cycling. There are many general guides.

English is now being taught as a second language in Japan so if you get lost you may find the best interpreter may turn out to be a helpful teenager.

Riding conditions

Japanese drive on the left-hand side of the road so road usage will not be a problem to the Aussie cycle tourist. In Japanese road law there is a rule which states that motorists have a duty to protect non-motorised modes. This usually ensures that drivers are courteous to cyclists. The ubiquitous police also ensure that bike riders are equally courteous and obedient of the road rules.

Generally drivers are not aggressive and will give riders plenty of room.

Box turns are compulsory at all traffic lights or on right hand turns. Cycle paths exist in some urban areas but as these are mainly constructed as recreational routes for 'Sunday' cyclists they are of little use on longer tours.

One road rule which has inadvertently prevented widespread tandem use in Japan is the law which says that only one person must ride on a bicycle. As the rule book says nothing about the two seater, police who see two people riding a tandem will tend to enforce the letter of the law and order the machine and its riders off the road. This has happened often enough to require visiting tandemists to check with the police before they venture forth on to the roads. Tandems are usually permitted by police provided that they are ridden by one rider only.

Bicycle parts and repairs

As the components which make up most Australian bicycles are made in Japan, Aussie tourers will have no problem with breakages and repair while in Japan. Use is widespread and so there is generally a cycle shop or motorcycle/cycle shop in every town or city. As previously mentioned, frame and clothing sizes for Japanese are generally small so if you do have an accident don't wreck your frame or your cycling clothes, if you need a domestic Japanese replacement.



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Apollo Mixte: A bike to pass around

The mixte frame bicycle though marketed as a 'ladies' machine is more than that. Quite often it is a bike shared by members of a family or passed around to friends. It's an all purpose machine because it's easy to ride and reasonably strong.

The familiar mixte design has now replaced the old ladies' frame as the standard non-diamond frame adult bicycle. It is particularly useful for shorter adults who find the top bar of a diamond frame too uncomfortable. The only problem for users of this frame is the lack of larger frame sizes. It is almost always available in standard form as smaller (49 — 52cm) frame sizes.

The mixte frame has recently undergone some improvement and modification. The thin double tubes extending from head tube to rear axle have been replaced by a combination of conventional diameter top tube between head tube and seat tube and twin stay tubes between seat tube and rear axle dropout.

The newer configuration is used on the Apollo Mixte bike.

In response to general fashion trends, the Apollo is now available in two new season colours, Pastel Blue and Pastel Pink. These are in addition to the conventional Apollo colours of Dark Blue and Red. The paintwork is up to the usual good standards set by the company.

An other interesting feature is the use of semidrop alloy handlebars. These bars are very common in Japan and Europe and are a cross between conventional drop bars and the flat bars usually fitted to Mixte bikes. The large back sweep of the bars allows for an upright riding position which is fine for short people but taller people will need a longer reach stem to position the bars further forward and clear of leg movement. The combination of the semidrop bars and the sprung saddle gives this bike a very comfortable ride.

The addition of a quick release seat bolt would make this bike more useful for family use where riders of different heights were using the machine.

The stem levers are awkward to operate (my views on this style of lever are stated elsewhere in this issue). Gear changing could have been improved if thumb shifter type levers were fitted to the handle bars.

For all people of shorter build this bike will provide a smooth riding all purpose recreational or touring machine. For touring, a rack of course will need to be fitted. In fact the addition of a good alloy rack and lights would be all that a tourer or city rider could want.

Apollo Mixte

Suggested Retail Price \$263

Sizes (cm) 500

Size Tested 500mm

Frame High tensile steel .012mm tubing, Mixte Shape, Brazed-on brake cable guides, Pressed steel dropouts, Frame length (Head tube to seat tube) 520mm.

Bottom Bracket Height 275mm

Fork rake 55mm

Wheel base 1055mm

Chain Stay 460mm

Transmission

Chainwheel Set: Sugino No 6 Cotless with steel rings 170mm cranks
Chain: KEC
Deraillleurs: Shimano Altus
Freewheel: Shimano cassette
Freehub, twist tooth cogs
Gear Levers: Shimano Altus stem-mount

Wheels

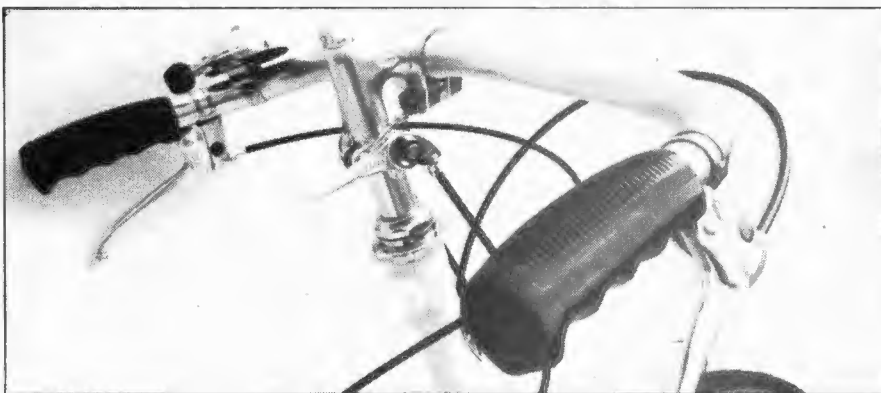
Rims: 27x1 1/4 Steel Araya
Hubs: Shimano Steel
Spokes: 14 gauge CP Steel 4 cross
Tyres and Tubes: IRC HP 90 27x1 1/4
90 psi Gum Wall Schrader valve

Equipment

Pedals: KKT RT-SF Steel with reflectors
Handlebars: Alloy semi-drop
Handlebar Stem: SR 50mm reach
Handlebar Covering: Plastic grips
Saddle: Apollo wide spring
Saddle Pillar: Steel
Rack(s): None fitted
Frame Mounting Eyelets: Double
Eyelets
Alloy Mudguards fitted

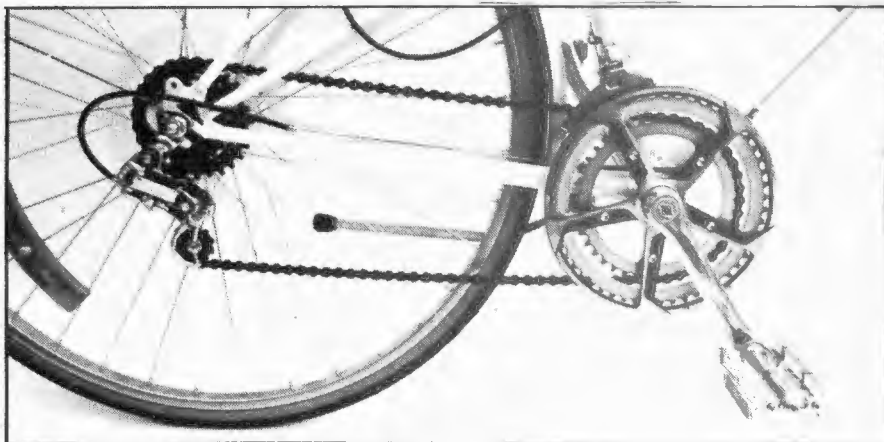
Gearing

	52	40
14	100.3	x
17	82.6	63.5
21	66.9	51.4
24	58.5	45.0
28	x	38.6



The unique alloy semi drop handle bars and controls on the stylish Apollo Mixte.

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Knowing your knees

David Holzman is a freelance journalist resident in the U.S.A. He has ridden a bicycle for most of his life but for some of it he has experienced painful problems in his knee joints.

David's love of cycling took him on an uncomfortable journey of discovery within his own body. The result of his exploration has been a steady decrease in his knee problems over the succeeding years.

Health and fitness are the rewards for those who follow his simple advice.

I am a modern centaur, half-human, half-bicycle. When I was six years old a neighbour failed to recognise me as I walked down the street, because she was used to seeing me only on my bicycle. When I was 22, I climbed the Cascade Mountains, the Rockies, the Whites, and the Greens, and I saw the Great Plains and the Great Lakes, all in one trip. Two years later I quit bicycling because of chondromalacia, that crippler of knees that bicyclists dream about in their worst nightmares.

Chondro (cartilage)-*malacia* (softening) is chronic degeneration

that, for unknown reasons, usually starts on the underside of a kneecap, the bearing surface that slides along the groove at the base of the thigh bone when the knee is flexed or extended. People who have chondromalacia are sometimes stuck with it. At best it may act up under stress causing temporary pain that prevents prolonged cycling, hiking, running, or other vigorous sports. At worst, the cartilage degenerates until even walking becomes painful.

Doctors often prescribe the sedentary life for victims of chondromalacia. For two years I believed

that I was sentenced to life on a moped and I learned why "moped" is the past tense of the verb "to mope." But last spring I quit moping and dusted off my bicycle. In late summer I bought an odometer and turned my first thousand miles within three months. Chondromalacia victims, take heart, bicycling may be the best thing you can do for your knees, but there is an art to treading that fine line between doing enough and not too much.

Doctors disagree

My first hint of knee trouble occurred when I pedaled into Spokane, Washington, on a cross-country bicycle trip during the summer of 1975. I rested two days and saw two doctors. The first told me to get off the bicycle, and the second asked me to send him a postcard when I reached Boston. My knees warned me to slow down (but not stop) only twice in the next 2,700 miles. But the thought that I might want to ride farther or harder than my knees would allow was, to say the least, upsetting.

Normally my feet toe out, and I reasoned that the knee trouble was due to toe clips that held my feet in a straight-ahead position. I had been given a set of exercises to correct the foot condition when I was eight years old and, after the trip, I tried them. They were brutal to my adult body and caused what was then diagnosed as tendinitis in my right knee. I suspected worse and, after reading some medical journals, concluded that I might have chondromalacia. It was mild, however, and, over a year-and-a-half, four orthopedists failed to find anything wrong. Finally, an orthopedist of national repute, whose articles I had read in the *Journal of Bone and Joint Surgery*, confirmed my fears.

Subsequently, my left knee began to hurt after I had "one-legged it" up a steep hill. I bought the moped after the doctor advised me to quit bicycling, but never became fond of it. I received lots of attention from bystanders who shouted things like "I bet you don't use much gas!" and "How much did it cost?" and "Wow!" But my kindred spirits, the bicyclists of the world, no longer recognized me as one of their own. I considered attaching a sign saying, "I'd rather be bicycling but I have bad knees."

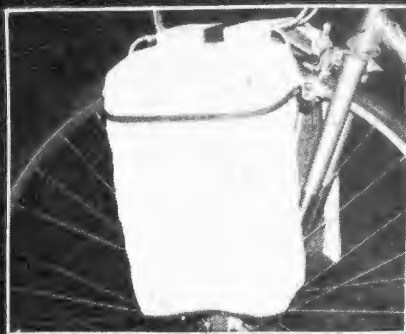
When I stopped bicycling, I was so frustrated I was almost glad to quit. I had alternated between resting my knees until I thought they should be better, then pushing hard to "test" them, which only made them worse. A year later, quite by chance, I discovered a better strategy.

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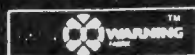


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*This photograph was taken under actual on road conditions using car headlights and electronic flash. Tech details: f8 for 6 sec.
Electronic flash at end of exposure.*

Low gears and steady distance

While visiting Seattle I learned that a bicycle path had been built since my previous visit. My hosts suggested that I try the path "for just a little way." I had borrowed a bicycle, filled the tyres, and set off, intending to go about a half-mile and turn back. But I found that I could propel myself simply by letting the weight of my feet push the pedals. I saw no point in turning around and returned 2½ hours, and 20 miles, later. I felt reborn. The bicycle path is flat and runs for at least ten miles along Lake Washington. The knees did not hurt during or after the ride.

Encouraged, I returned to Washington, DC, and began short rides around town. Six weeks later I awakened one morning with pain in the left knee. I dared not ride and even walking was limited by a "grabbing" sensation. The pain persisted and, a few weeks later, I again quit bicycling.

Nine months later it was spring, and I had to get back on my bicycle. I thought I might ride successfully if I took a long, gentle, uninterrupted ride as I had in Seattle. I reasoned that a long ride would get my knees thoroughly warmed up and allow ample time for the nourishing joint fluid to penetrate the cartilage. Riding on one of the bikepaths would free my knees from the stress of having to stop and start, and maybe my knees would even improve if I took long rides regularly. So, one Sunday I pedaled four miles along Washington's

"towpath", one of the flattest in the country and uninterrupted by crossroads. The buds were on the trees, frogs were in the canal, and a few bicyclists, joggers and hikers had emerged from hibernation, like me.

I waited anxiously for the ominous knee twinges as I pedaled, but they did not come. I carefully iced my knees when I returned home. The towpath ride became a ritual, 10 to 12 miles three or four times a week. Over the next month, I watched the buds turn to leaves and the bicyclists, joggers, hikers, and frogs become more numerous. My knees felt a little better after each ride, and the farther I rode, the better they felt. There seemed to be a threshold at about ten miles, where the benefits increased dramatically.

After several weeks my knees began to push gently on the pedals, seemingly of their own accord. One day I raced along Rock Creek Parkway, with that floating feeling like flying in a dream. Visions of climbing mountains again danced in my head. That evening, instead of the harsh reality of knee twinges dampening my euphoria, I found the grabbing had disappeared from my left knee. Later, during week-long vacation on Cape Cod, my knees improved so much from spending 1½ hours in the saddle every day that, when I went home, I began using the bicycle for basic transportation and retired the moped.

My rides increased to as much as 30 miles on weekends, and the farther I rode, the better my left knee felt. Then one day, with just four miles to go on a 40-mile ride, I felt twinges in

my right knee and had to limp home. I had overdone it, and two months elapsed before my right knee recovered. Ironically, the same ride caused my left knee to stop grabbing completely. Since then each knee has had occasional setbacks, but I'm still riding and plan to keep it up until I'm at least 80.

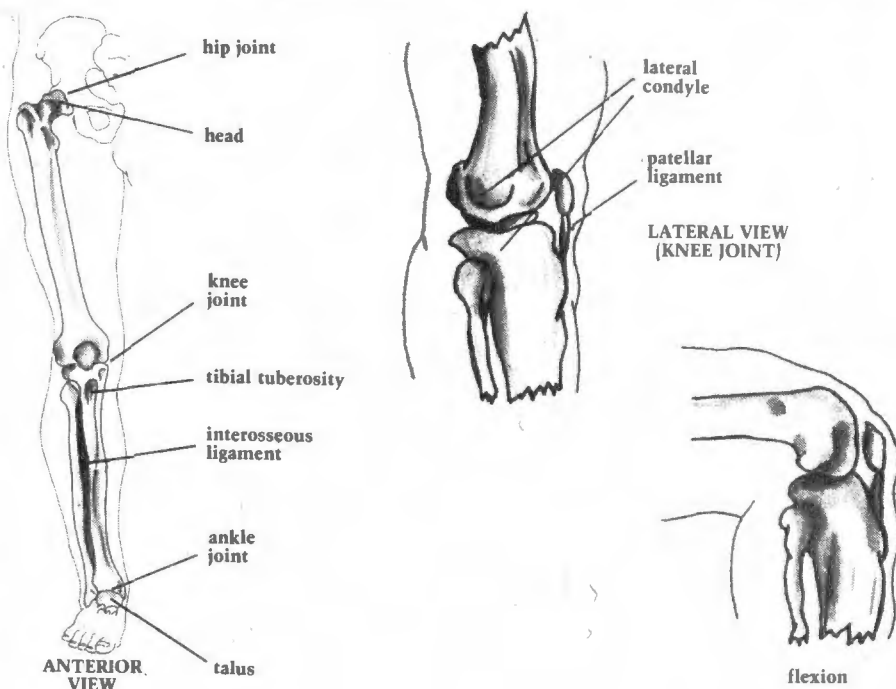
What can you learn from my experience?

The human body evolved during the rugged conditions of prehistoric times. It responds to disuse by atrophying and rebuilds itself with use. Bicycling can, therefore, be good for bad knees, but it must be done with all the discipline of athletic training. Do lots of it on a regular basis, but be gentle with your knees. When I have aggravated a knee, I stay off the bike for only a day or two. I then resume my routine, starting with eight or ten miles per day the first week and then gradually building back up. A short rest may be necessary at times to reduce inflammation, but rest is not a cure.

You must fully accept your condition before bicycling can be made to help, otherwise you will not be able to "read" the signals from your knees that tell you how to treat them. During the several years before I faced up to my knee problems I was so afraid of pain that I dared not ride far. When I finally rode 40 miles one day with no ill effect, I deluded myself into thinking nothing was wrong. I began pushing hard, ignoring the pains that developed, until one day they stopped me dead, and I had to hitchhike home.

Even subtle pains can mean a lot. If the slightest twinges occur consistently when the knee is flexed at a certain angle, I stop immediately. Generalized pains are harder to evaluate. Some disappear with more riding. Learning to read your knees by trial and error can be frustrating but is essential to coping with chondromalacia. Each case is unique, and the patient is better able to determine how much exercise the knees will tolerate than the doctor. You, yourself, must take the responsibility for determining what you can or can't do.

Learning how the knee joint works will help you. For instance, I learned that blood does not flow through cartilage. Nutrition is carried to it and waste products are removed by the synovial fluid which diffuses into and out of the cartilage somewhat like water into and out of a sponge. It seemed to me that gentle flexion and extension of the joint should aid this process and, perhaps, help the cartilage to heal.



Proper riding technique helps

A fast cadence with low gears is less likely to strain knees than a slow cadence with high gears. Handlebar position is important. Increasing the bend of the elbows while on the drops makes hill climbing easier. Adjust your bicycle so you are comfortable. If you have saddle soreness, you might miss cues from your knees.

If your bicycle is too heavy and slow, get a better one. When you face the frustrations that bad knees bring, it is important to make riding as easy and pleasurable as possible. You should have a super-low gear. I have 40 teeth on the small chainwheel and 32 teeth on the large freewheel. These are adequate for relatively flat terrain, but I walk up the steeper hills. Pamper yourself with bicycling paraphernalia if it makes you feel good. It was in this spirit that I subscribed to *Freewheeling* and bought an odometer. The odometer helps me keep going when I get bored from riding the same paths every day.

Finally, attitude and state of mind seem to have a stronger influence on my knees than any physical measures except bicycling. I cannot fully separate the effects of state of mind from the effects of bicycling, however, because bicycling did so much to boost my spirits. But even while I had stopped cycling, when my left knee was at its worst, I found that

pain improved markedly during vacations, only to return when vacation was over.

If you want more evidence, in his new book, Norman Cousins, former editor of the *Saturday Review*, tells how large doses of vitamin C and a positive outlook were reinforced by watching tapes of old "Candid Camera" programs and funny movies that gave him a good laugh. That may sound wacky, but you can read about it yourself in *Anatomy of an Illness*, the account of his recovery from a crippling, usually fatal inflammation of the joints.

Although I do not know whether complete recovery from chondromalacia is possible, I plan to continue trying. With the improvements I have made it seems that I should be able to go all the way, if only I can put enough time into bicycling. Currently I average only about seven hours a week, and I rarely have time for even a 20-mile ride. But even at the rate I'm going my 10,000-mile odometer will turn back to zero in just over two years. I wonder, are 100,000-mile odometers available?

Another's experience

A friend of mine, Rebecca Shankle, walks with a cane and avoids climbing stairs if at all possible. Her right knee creaks and grinds, and her left knee clicks slightly. Yet she can ride a

bicycle 30 miles, and she's still increasing her distance.

Rebecca was hit by a car four years ago while riding to work. She flew through the air and landed on her right kneecap, which was severed, and the bottom half was later removed. Her left leg was broken in two places, one adjacent to the knee joint. A year-and-a-half ago, encouraged by my experience, she bought a new, lightweight (23-pound) bike. She now commutes to work on it, fives miles each way.

Rebecca's rules for dealing with her knees are somewhat different from mine. She has much more chronic, low-level pain that I do, and she will keep riding even after her knees become moderately painful. She's careful, however, not to put stress on her knees and avoids hills. She has improved dramatically though, and can now ride 30 miles more easily than she could ride 15 miles at the beginning.

Postscript

David Holzman took his first long bicycle tour since the knee trouble last summer, a 480km trip around New Hampshire and Vermont. His knees reportedly held up well and probably even improved from the ride.

David Holzman is a freelance journalist resident in the U.S.A. This article originally appeared in the U.S. magazine *Bicycling*. It is reproduced with permission of the author and *Bicycling*.

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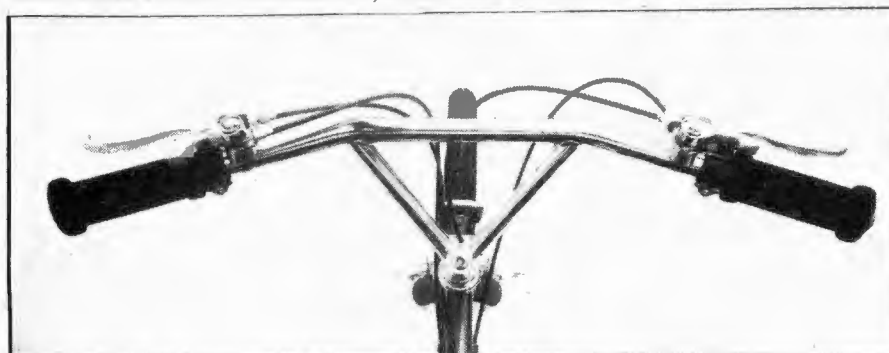


THE FAT TYRE FANATIC

Repco's Mountain Bike



Below: A rider's view of the bullmoose style handle bars and controls of the Repco.



Freewheeling
ROAD TEST

As with all of the fat-tyred bikes road tested in *Freewheeling* to date, the Repco is a very comfortable machine to ride. The narrower 1.75 raised centre rib tyres give a smoother, faster ride on bitumen roads without the characteristic whirr of the wider 2.125 knobblys.

Though it is set up for off road riding (the narrower tyres still perform well with lower pressures) the Repco is easily at home on the streets of the big cities. Pot holes and curb edges are easily traversed by the balloon 26 inch tyres.

Equipment selection is top class. The DiaCompe 980 extra long cantilever brakes give the best braking of any brake set tested and the alloy motorcycle type levers and oversize cables give a firm positive control.

Located close to the brake levers are the SunTour Microlite thumb shifters. These have three lever stop positions which can be easily adjusted to suit individual rider preference. Both brakes and gears can be manipulated without changing hand positions. These controls are mounted onto the newer chrome moly bullmoose type handlebar/stem assembly. The width of the bars gives excellent control for off-road use but a narrower width bar would feel more comfortable in urban and city use.

The gearing is a good 15 speed combination with an adequate low of 27. Most of the usable gears are in the 30 to 65 range so sealed road cruising gears and a faster top speed are all that is lacking. This observation highlights the fact that it is difficult to design a bicycle gearing system that will perform on-road and off-road. The Repco is designed for off-road use but with the idea that most of the bikes sold will find a greater use on urban streets.

The frame is clean looking and lugless with chrome moly tubing and mangalloy forks. The braze-on fittings are excellent with slotted gear cable stops to allow rapid access for lubrication. In tough conditions this feature will be regularly needed if operating friction is to be minimized. The rear brake cable hanger is a clever bracket welded to the frame and designed to take the top struts of a rear rack.



Though a lot of the newer pedal designs coming out of Japan are of questionable durability the Shimano DX black alloy pedals performed well throughout the testing period.

Repco have done well with their entry into the fat-tired field. The combination of a Taiwanese fabricated bike built from good quality Japanese componentry and tubing puts this remarkable (and comfortable) bicycle type within the reach of a mass market. It is not easy to balance good quality with the right price. Repco may have found the right formula with their bike.

Repco Mountain Bike

Suggested Retail Price \$448

Sizes 530mm

Size Tested 530mm

Frame Butt-welded (lugless) chrome moly oversize tubing Mangalloy forks, cast fork crown. Cast fork tips and drop-outs. Single eyelets on drop outs for racks. Brazed-on cable guides (brakes and gear), rack mount, water bottle mounts. Stainless chain stay protector. Quick release saddle pillar clamp.

Head tube angle 69°

Seat tube angle 70°

Bottom bracket height 300mm

Fork rake 55mm

Wheel base 1095mm

Chain Stay 450

Transmission

Chainwheel Set: Sugino GT Triple

Cotterless 175mm cranks

Chains: Izumi Nickel/Steel

Derailleur: SunTour MounTech

Freewheel: SunTour Perfect 5 speed

Gear Levers: SunTour Microlite

Thumb shifters.

Wheels

Rims: Araya 26x1.75 Alloy

Hubs: Sunshine large flange alloy

MX type

Spokes: 14g stainless

Tyres and Tubes: National Panaracer 26x1 Skinwall raised centre tread.

Equipment

Pedals: Shimano DX PD-MX15 Alloy black

Brakes: DiaCompe 980 Cantilever

tyre with Heavy duty alloy levers

Handlebar Covering: Black sponge grips

Saddle: Viscount Terra Leather

anatomic mens

Saddle Pillar: SR Alloy CT-P5 micro

adjust Laprade

Rack(s): Not fitted

Gearing

	48	38	28
14	92.6	73.3	x
17	76.2	60.4	x
20	64.8	51.3	37.8
24	x	42.8	31.4
28	x	36.6	27.0



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Freewheeling
ROAD TEST

A most remarkable machine

Freewheeling tests the Rolls Royce of bicycles

One of the best attended exhibits at the Harrogate International Festival of Cycling this year was that of Alex Moulton Limited. Twenty one years after the launch of the first small wheeled bicycles and nine years after the last model went out of production Moulton is back with a most remarkable machine. Nigel Jenkins rode the new AM7 and reports on its abilities.

The Advanced Engineering Bicycle

The unveiling of the first small wheel bicycles at the 1962 Earls Court Cycle Show set a landmark in bicycle technology. Dr. Alex Moulton, the inventor of the suspension system that made possible the Morris Mini automobile, shocked an incredulous cycling world with a bicycle that incorporated two developments that had long been commonplace in other transport vehicles; smaller wheels and suspension.

The use of smaller wheels has been evident in all forms of transport since the turn of the century, including bicycles. A smaller wheel is stronger, possesses better acceleration and handling characteristics due to its reduced inertia and on a bicycle has a lower resistance to wind and rolling friction. The smaller wheel also allows the cycles centre of gravity to be lower than that of a large wheel machine.

Alex Moulton believes that the wheel size on his bicycles is correct, that Moultons are not small wheel bicycles but are more accurately described "smaller wheeled".

The problem with smaller wheels on bicycles is that a harsh and bumpy ride results from the wheels tendency to drop into and rise quickly over uneven road surfaces.

This problem was solved by the use of independent front and rear suspension.

The first Moultons created a new generation of small wheeled bicycles from manufacturers that mostly imitated the Moulton designs but corrupted the high standard of the original. The suspension systems were deleted and replaced by fat balloon tyres, the cyclist was offered a cheap, fashionable machine but paid the heavy penalty of high rolling resistance. Nevertheless the type flourished, in some years to hold 35% of the U.K. market, while the Moulton itself went out of production in 1974 having been sold to Raleigh Industries in 1967. Raleigh still hold name and manufacturing rights.

In a direct comparison with a diamond framed, large wheeled cycle the Moultons were considered by many to be more comfortable, have better road holding characteristics (especially when heavily laden) and faster. They could also be adjusted for riders of any size. The problem was that

they were heavier, suffered from high frequency vibrations on some surfaces and did not allow for easy adjustment of the front suspension to suit rider weight and cycling conditions.

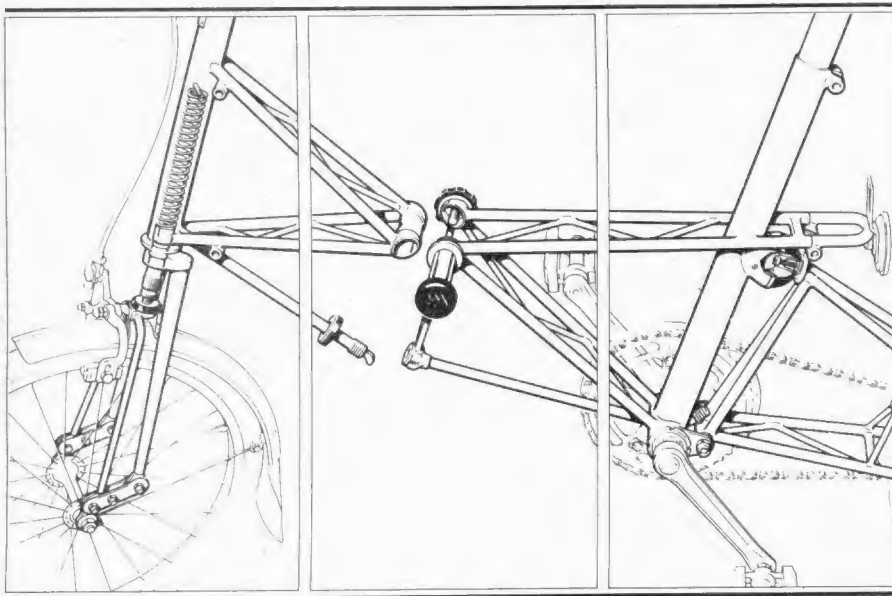
Now the "Advanced Engineering Bicycle" from Alex Moulton Limited offers a bicycle better than the originals in both performance and weight, equal to or better than a diamond frame lightweight, and possessing an exceptional standard of sophisticated engineering and production quality.

In Moulton's words, "We are not entering the volume market, but concentrating on producing the highest quality machine for those who want the best available."

The Moulton bicycle is available in two versions, the AM2 (Town) and the AM7 (Country).

The overall configuration, in terms of the relative positions of saddle and handlebars to crankset and wheelbase, is identical to many diamond frame bicycles. After this the Moultons are in a class of their own.

Both models are built around a 72½° parallel multitubular space frame of Reynolds 531 everything and are identical but for the difference demanded by the transmissions. The frame is very stiff and is separable at the X to allow for easy storage and transport. The triangulated rear fork pivots on bronze bushes at the bottom bracket and is reacted on by a bonded rubber cone spring thus isolating shock without interfering with pedalling.



The Moulton in detail. Front suspension features a dampened spring leading link suspension system. The frame separates by means of a central king pin to allow for easy carrying and storage. Rear suspension features pivoting rear chain stays with seat stays dampened by a rubber cone attached to the seat tube.

The leading link front suspension produces a long and soft springing action and adjusts for both damping and height to suit the weight of the rider.

The AM2 is fitted with a back pedal brake and automatic two speed gear system, the AM7 with seven speed

rear derailleur and side pull rear brake.

The unique separability of the AM7, the only derailleur gear machine to be so, is achieved by a special gear/brake bracket. The bracket is removed prior to a separa-

tion and attached to a parking boss on the rear section. The gear lever is positioned on the frame and carries over with the bracket, the brake cable splits into front and rear sections being normally connected by an angled lever connected to the bracket.

The AM2 and 7 abound with features indicative of its high quality and well thought out design. All rider adjustments are effected with a single allen key carried conveniently in a rubber housing under the seat, the pump is concealed within the seat stem and the bar stem features a special release mechanism in the form of a circlip stopper over the locking bolt. Handlebars can thus be adjusted for height without bashing the bolt to unseat the expansion wedge.

These are dignified bicycles presented with pride by the manufacturers. They carry no identification bar a small badge on the head tube, you are assumed to know this machines pedigree. Detailing is well thought out, the finish of the lugless frame superb, however a number of items fails to meet general standard.

Pop rivets look quite out of place and its disturbing to see such on the seat stem, and fixing mud flaps to the comparatively ordinary mud guards. The gear/brake demount bracket looks like a prototype and doesn't allow for the gear shift lever to be adjusted to user preference, it also has an essential and non standard washer that can be easily lost during separa-



TOURLITE HELMET

BELL

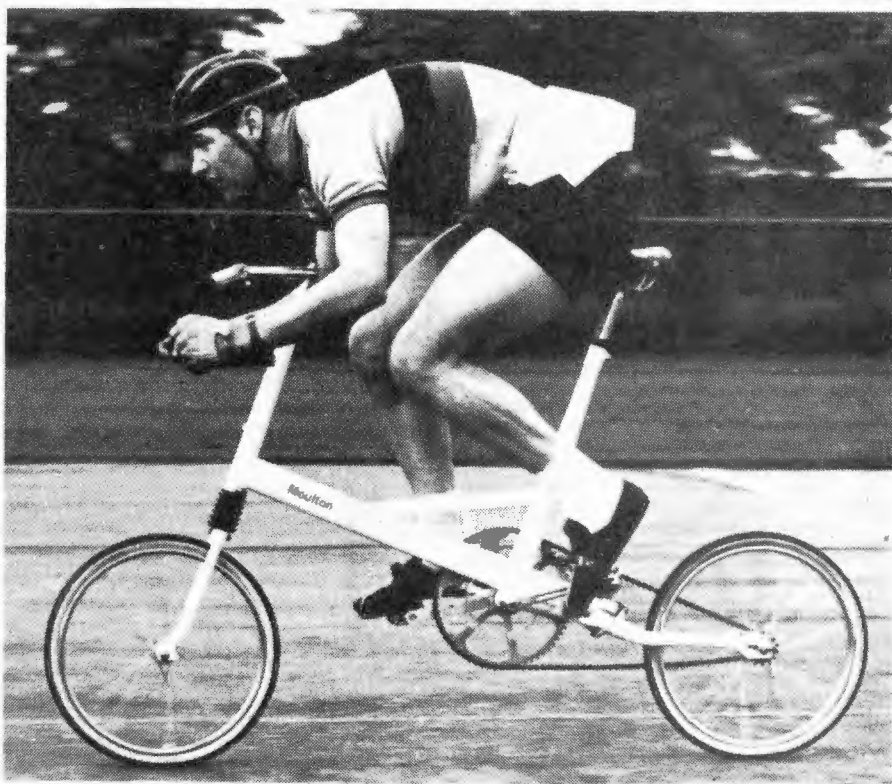
tion — an item that should be held captive. The snap-in plastic chain guard, although not of Moulton manufacture, is also a disappointing feature — it also snaps out easily and really isn't up to the job of protecting anything.

A range of custom accessory components are available: 531 tube carriers to fit the bicycle; a beautifully made cane basket; carry bags and a collection of soft, frame fitting bags. The Karrimor made bags for front and back should work well enough, the frame fitting tool case is an excellent idea as are the frame skins. These are designed to enclose the frame and are provided with zip openings corresponding to the space frame compartments enclosed.

The AM7 On the Road

I was recently able to road test one of the first production model AM7 bicycles on this years London to Brighton bicycle ride, 86 kms of absolute madness in the company of 15,000 other cyclists.

The Moulton proved to be a very distinctive machine. Easily recognised by it's space frame construction the ride was undertaken to a constant chorus of comments and remarks from a never ending jam of bicyclists. The owners of earlier model Moultons glowed with pride that their favourite manufacturer had not deserted them, the AM7's style, weight and clever suspension general-



English racer Vic Nicholson demonstrates the original Moulton track bike banned in the 1960's from all track competition.

BELL **BIKER HELMET**

Designer Alex Moulton demonstrates the collapsible properties of his amazing creation the AM7.



ly impressed most but mystified many others. A first reaction like my own was not uncommon, "what a peculiar machine!"

Ten kilometres on the road however and this bicycle had me convinced of its excellence. The ride is silky smooth, the gearing wide enough for the steep descents and

risers on the route. It is quick and very responsive.

The latter qualities came as a surprise to a number of club tourists, expecting to leave me in their dust they too were impressed when the man on the bendy bicycle became like the man with rubber pedals — very hard to loose. But then it's surprising, and at times frightening, just how closely one can slipstream a leading cyclist when on a Moulton. The 17" diameter front wheel tucks in very neatly under a big 27" rear wheel.

The suspension gives the AM7 a feel on the road very different to that of more conventional bicycles, when adjusted according to rider weight and anticipated surface conditions there simply is no vibration at all and shocks from smaller surface defects are nicely absorbed before reaching the frame. Rougher conditions can cause the front system to "bottom", this is most unpleasant but can be adjusted for by simply turning a knurled ring on the leading link.

The smaller wheels do fall into holes more readily and here some care is needed. Despite the claims of the manufacturer that it is suitable for the roughest of roads the AM7 does not handle potholes or narrow transverse trenches very well, but then neither do the conventional lightweights.

An AM7 will not park itself free standing on a kerb, the pump occasionally goes 'clunk' inside the seat tube and I'm told the position of the

pump does present a risk of the valve stem falling into the bottom bracket — but enough of petty criticisms. The Advanced Engineered Bicycle by Alex Moulton is a very convincing statement of the advantages of smaller wheeled cycles. A test cycle I was most reluctant to return and have missed ever since. Ride one if you get the chance.

The Moulton AM7 with racks and specially made Karrimor bags for country or touring use.



Specification

Price: AM2 399 AM7 489 (approximately \$1,000 imported into Australia).

Colour: Metallic Grey

Weight: AM2 10.4 kg AM7 10.8 kg

Frame: All 531 multi tubular space-frame 72½° parallel angles 1054 mm wheelbase. Separates via central king pin and hook & socket. Spring leading link forks. Rear triangle & rubber cone reactive suspension. Haden special stainless steel drop outs. Up to 670 mm frame size.

Headset: Campagnolo

Stem: AM2 GB 8 or 10 Special release mechanism AM7 SR

Bars: AM2 Flat aluminium AM7 GB drop or flat

Brakes: AM2 Weinmann side pull 605 AM7 CLB

Wheels: Mistral section 17x1¼. Stainless Steel spokes, radial front, cross rear

Tyres & Tubes: Special Wolber 90 psi

Gears: AM2 Fichtel-Sachs 2 speed automatic AM7 SunTour Superbe

Freewheel: AM7 7 speed hybrid Regina CX/Moulton

Gear Range: AM7 (31.5 — 88.4)

Chainset: AM2 Nervar AM7 Stronglight 103

Pedals: AM2 SR rubber AM7 Lyotard quill

Toe Clips: Christophe

Saddle: AM2 Wide Anatomic AM7 Narrow Anatomic

Seat Stem: SR Laprade & Moulton stainless steel extension

Accessories/Options: Front and rear 531 tube carriers, special matching Karrimor bags, rear cane basket, shoulder carry bags, frame fit tool roll, sail cloth frame skins with three pouches. Future options will include a frame cradled child seat and aerodynamic fairing.

For additional information contact:

Mr. John Benjamin
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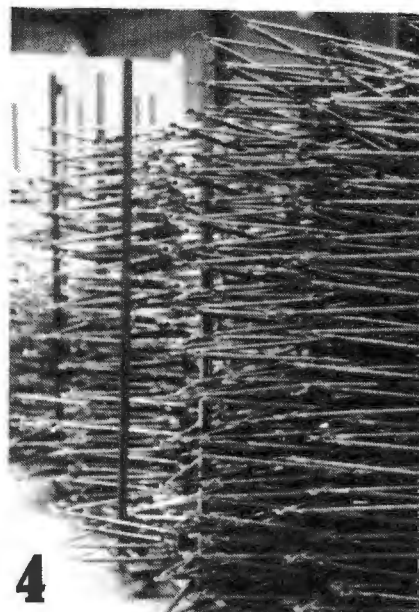
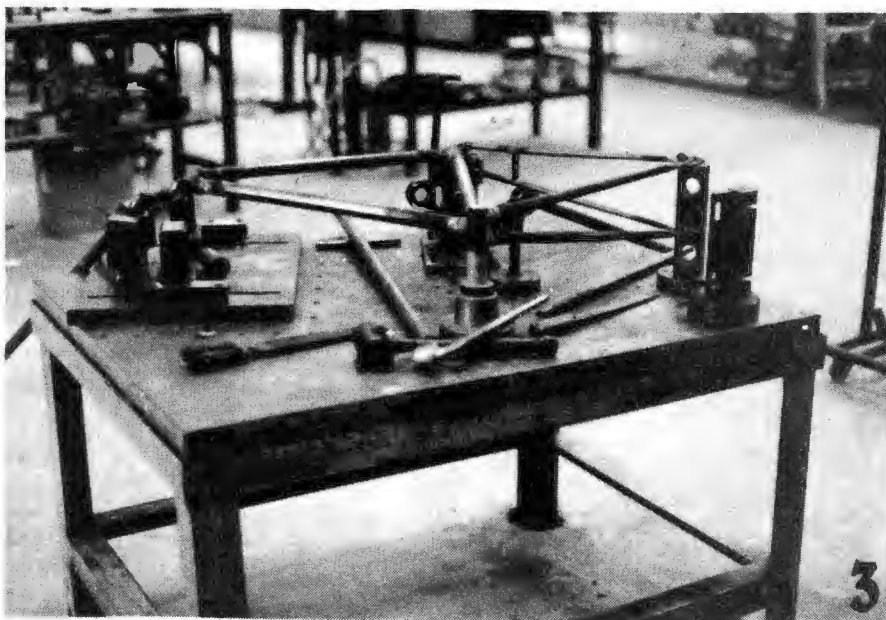
Inside a bicycle factory

To give readers some idea how their bicycles are manufactured, *Freewheeling* visited one of Australia's few remaining bicycle factories Leisure Cycles of Australia's modern plant in Adelaide. In this pictorial essay we follow the building of bicycles through each stage.



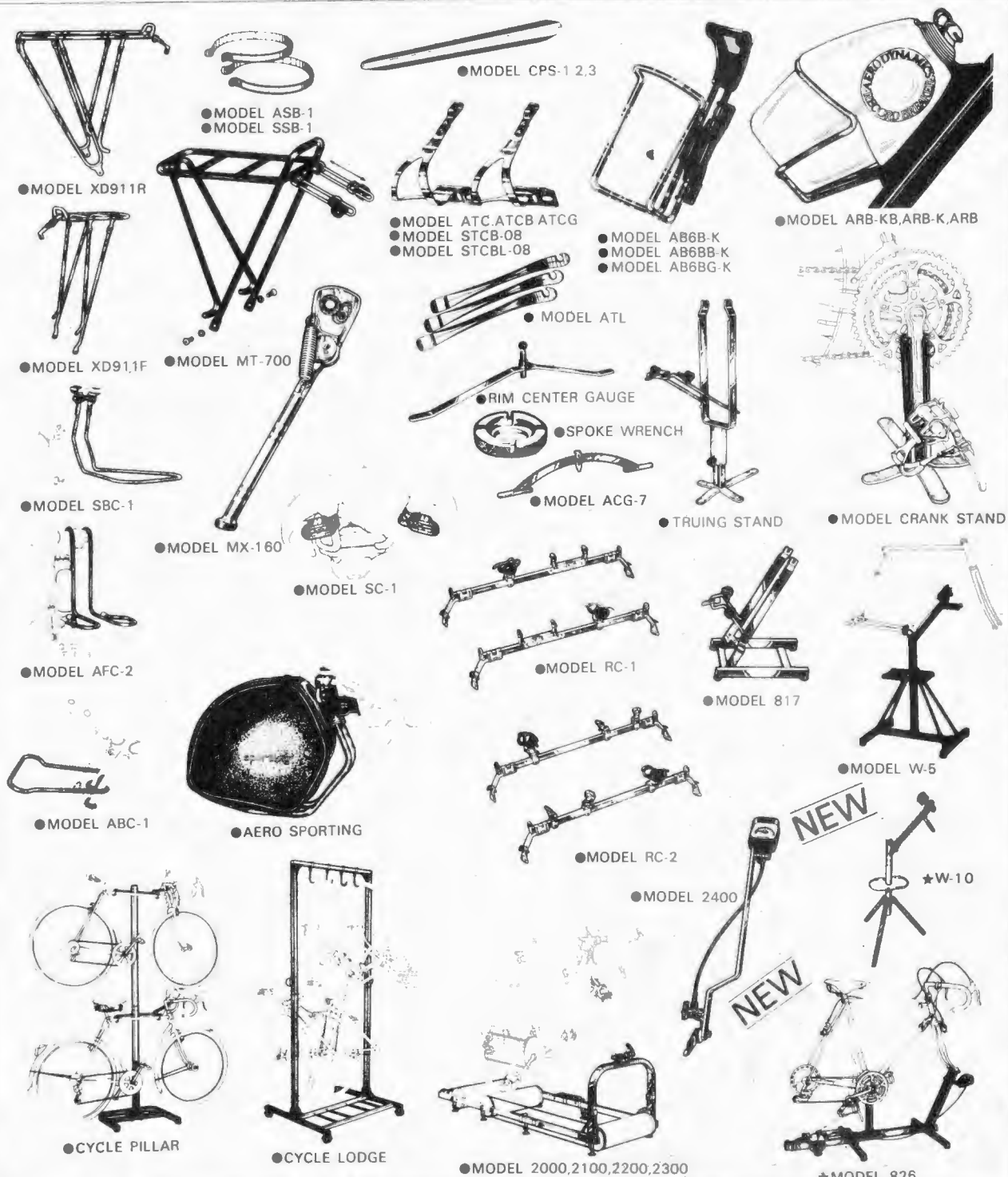
1. Frame tubing is precisely cut to size and fitted into lugs to make up the frame. The unwelded frame is held in a special frame jig and the joints are welded using bronze brazing with oxy/acetylene torch. The frame being welded in this photo is a standard ladies frame.

2. After welding, the frames are cleaned and sanded prior to sand-blasting which prepares the frames for painting.



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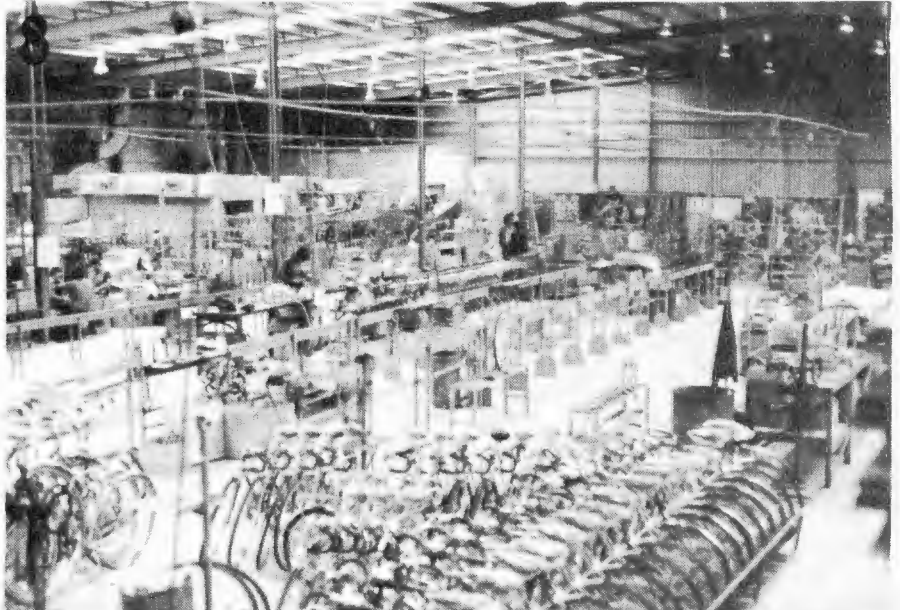
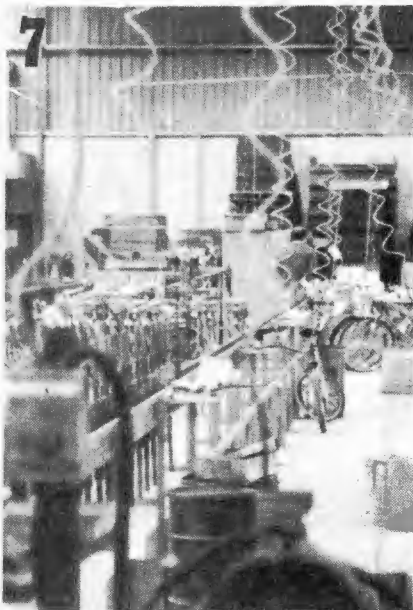
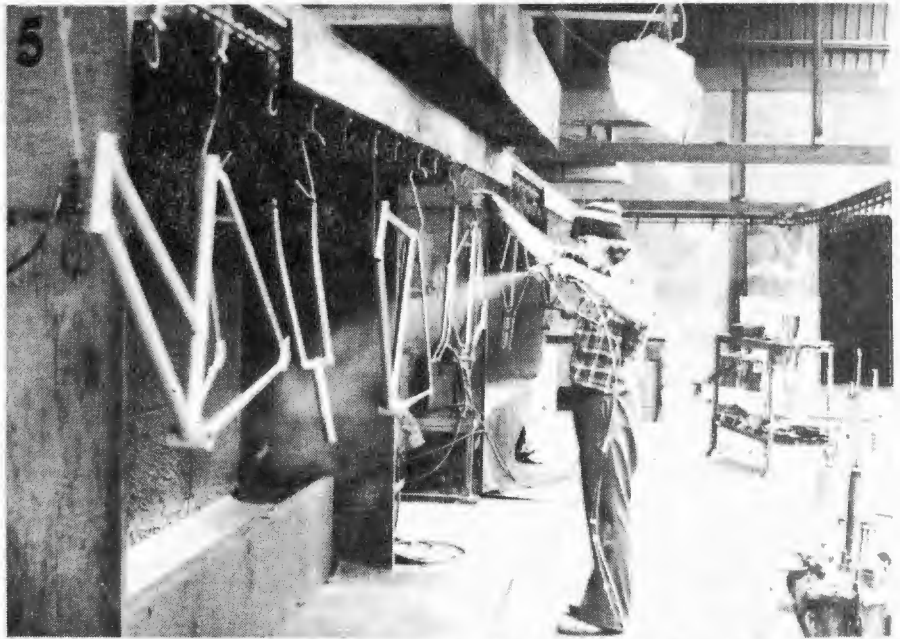
3. Prior to painting, the frames are checked and trued in a special jig on a flat plane table.

4. Prior to painting, frames are stacked in primed and undercoated form. Orders for frames in particular colours can be easily and correctly filled by painting only the number required in the correct colour.

5. Frames are placed on a moving assembly line which takes them past the painting booths and into an enamel baking oven. Painters use special electrostatic spray guns which charge the frame and paint and have the effect of drawing the spray of paint around the frame tubes. Over spray is collected in filtered exhaust-fan booths.

6. After painting, the frame decals are added and final paint touching-up is applied. The photo shows a painter at work applying pin-striping trim. Pin-striping is a decorative finish which is seldom used nowadays due to the time consuming skills required. Competent painters who can apply this unique trim are few and far between. Leisure Cycles are proud of theirs.

7&8 The frames are now ready for assembly into complete bicycles. Unfortunately the assembly lines were not operating when *Freewheeling* visited the factory. The lines are operated by a number of workers each performing a single assembly task. Nuts and bolts are tightened using pneumatic tools. The coiled hoses for this equipment can be seen in the left hand picture. Assembly lines build one model at a time. Each time a new model is built the assembly line has to be modified to handle the different components used.



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New all aluminum internal pannier frame is explained below

5000 The perfect touring tool — 4 exterior pockets — large front opening-main compartment — all aluminum internal frame — quick release attaching system — coated hooks — luggage style carry handles — shoulder strap included.
size — 13" x (13"-10") x 5½" Vol. 2260 cu. in. Wt. 2lb 7 oz.

5001 Front or rear pannier — one large compartment in each bag size — 13" x 10" x 5½" Vol. 1430 cu. in. Wt. 2lb.

3200 Front pack — patented internal separating frame — large front pocket and 2 expandable side pockets - removable map cover size — 10" x 10" x 5" plus pockets. Vol 600 cu. in. Wt. 19 oz.

1500 Seat or mini front pack — ladderlock seat fasteners — reinforced cable guard — third tie down to stop sway.
size — 9" x 6" x 5" Vol. 270 cu. in. Wt. 7 oz.

Colours: Royal Blue — Bright Red

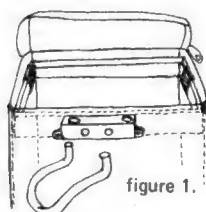


figure 1.

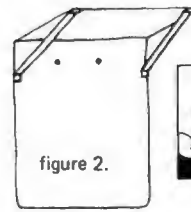


figure 2.



The revolutionary Bellwether mounting system exceeds all its predecessors. A small coated aluminum hanger, that easily fits into the bag when not in use, and a nylon internal frame create a stronger and lighter support method. You can tension to the front forks or back to the stem, whichever is more appropriate. Since the only exterior hardware on the bag is the nylon block which the hanger slips into, you don't have velcro or hooks that might snag your clothing when you carry the pack on your shoulder. See figure 1.

Bellwether introduces the first all aluminum rooftop support system. Our new frame has a three sided support which gives maximum cargo stability and a safer ride. Two aluminum struts join the rear of the frame to the roof. This creates a rigid triangle on both sides. We support the pack with two coated aluminum hooks. Rubber bungee cord is attached to the carry hooks and then using a "S" hook connector you can attach to the flange on your carrier or the drop out on your bicycle. Both the #5000 and #5001 will fit any carrier that is now being marketed.

The packs can be carried with the shoulder strap that is provided and they arrive fully assembled and ready to use. See figure 2.

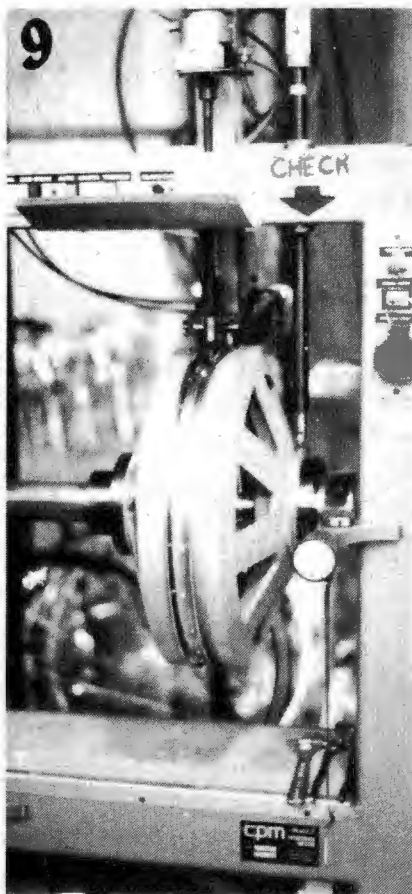
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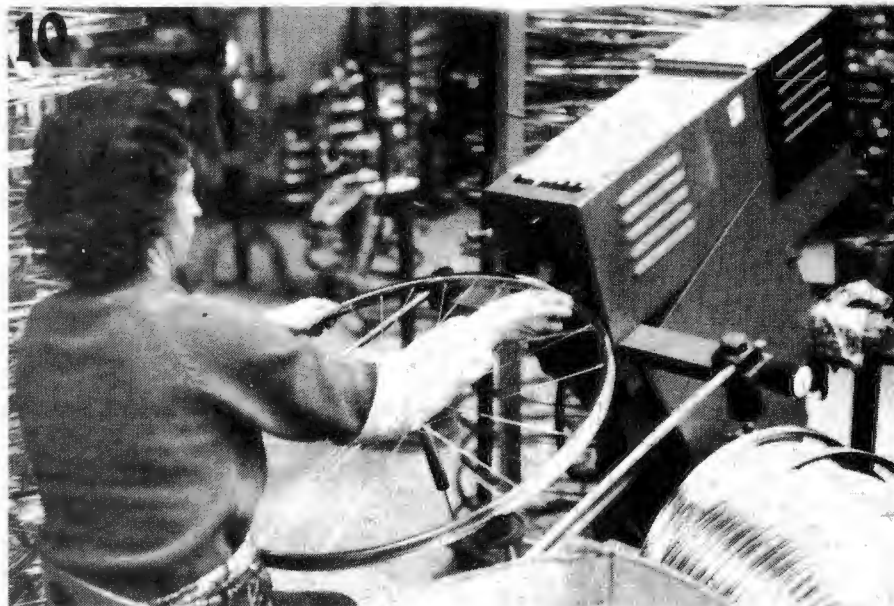
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9&10. Wheels are built using special machines. The machine in the right hand photo screws nipples onto spokes. Then the loose wheel is placed in a truing and tightening machine which precisely tightens each nipple in turn. Final checking is done by hand.

11. Testing is required by the Australian Standards Association to ensure high strength and quality of finished bikes. This photo shows a frame testing machine. The two sets of weights approximate the rider's mass while the front wheel runs on an off-centre pulley driven by an electric motor. The effect of this is roughly equivalent to a continual riding across cobblestones.

12. Sales Manager of Leisure Cycles Steve Boyley with a recent model production run, prior to packaging and delivery to dealers around Australia.



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Specification:

Frame: Tange Champion chrome moly mountain bike tubing, cast drop-outs and tips.

Gears: SunTour Mountech

Gear changers: SunTour Microlite Thumb+shifters

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Stem: Alloy bull moose type

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The Panaracer All-Purpose Mountain Bike Tyre. Hillman sells them. \$15.75

Freewheeling Sydney to the 'gong Bicycle Tour 1983

As this issue goes to print entries have closed and registered riders will be receiving their tour guides by post.

If you missed out on this years tour plan ahead to come on next years ride. The big 1984 ride will cater for many more riders and will be part of the Wollongong 150th anniversary celebrations.

If you have registered for this years tour here are a few hints to help make your day a memorable experience.

Rain or shine it's on again this year, the second annual *Freewheeling Sydney to the Gong Bicycle Tour*. The tour will commence at 8 am sharp from Belmore Park adjacent to Central station and some 11½ hours later, riders will be returned to the area by the State Rail Authority in a number of trains used to convey riders from Wollongong Station.

Registered riders should check in at the Freewheeling desk at Belmore Park to collect cloth patch and rail-ticket.

A number of volunteer ride guides or marshalls will be accompanying the ride on bicycles. These public spirited people will help the ride maintain an orderly and non-disruptive presence in the areas it visits during the course of the day. The organisers ask all riders to comply with all requests made by the Guides and ride staff. One of their jobs will be to demonstrate that bike riders can be responsible road users by self disciplined action. There are a number of places along the route where road and traffic conditions are hazardous. The guides and staff will be working with all riders to ensure that this year's ride is incident free.

The men-in-red-hats-with-seagulls team



Team Prize

A special prize of 4 bicycle helmets will be awarded on this year's ride to the best outfitted team of 4 riders or more. Judging will take place during the day and the winners will be announced and presented with their safety helmets at Flagstaff Point, Wollongong.

The great puncture repair race

A new-for-'83 lunchtime activity has

been organised for riders at the lunch spot at Red Cedar Flat. The Great Puncture Repair Race is open to all amateur riders (professional mechanics are unfortunately not eligible) and will be an enjoyable and exciting test of skills in the gentle art of tube repair. The race will be run in heats and finals between midday and 1 pm at the lunch stop. All finalists will receive Michelin tyre and tube products and Freewheeling subscriptions. Great fun. Why don't you test your skill. Entrants must supply their own repair kit and spanner etc. Basins and water provided.

Morning tea

As usual, morning tea is provided as part of the entry fee and will be available at Fern Tree Flat, Audley between 9 and 11 am. A *Freewheeling* check-in desk will also operate at Morning Tea for Wollongong riders unable to get to Belmore Park on time.

Lunch

Healthy catered lunches will be on sale once again at Red Cedar Flat. Tour participants who don't have the time or energy to pack a lunch will enjoy the fresh lunches and drinks so an enjoyable alternative to the vegemite sandwich. Prices as with last years ride, represent good value for quality.

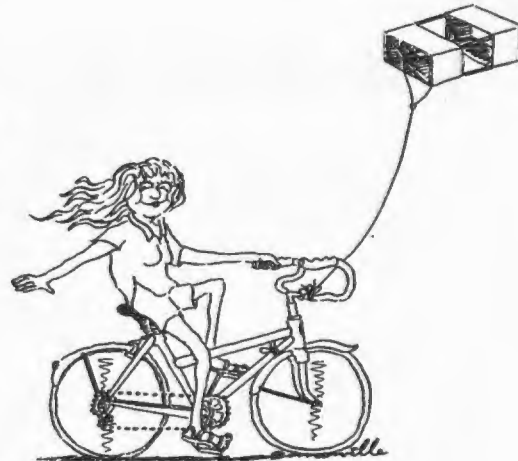
Other activities and stops

For hot and sweaty cyclists the afternoon break at Austinmer Beach offers the best opportunity for a dip in the surf. The assembly area at Austinmer will be adjacent to the changing sheds at the southern end of the beach.

As the beach area in late spring can become crowded, bike riders should expect some traffic and people congestion in the Austinmer area. A bike parking zone will be set up if negotiations presently underway with the City Council are successful

Supplies along the way

Shops along the way are few and far between, so free water and quality lunches will be available and on sale at



*freewheeling
sydney to the gong*

Red Cedar Flat. Other food and drink locations along the route are: **Water**, Belmore Park, Audley, Otford, Clifton, Austinmer Beach, at Surf clubs along the cycle route, Flagstaff Point, Wollong Station; **Food & Drinks**: Various places along Princes Highway to Georges River, Top of second Sutherland Hill, Audley, Otford, Stanwell Park, Various towns between Clifton and Austinmer, Austinmer, Bulli, Wollongong.

Wet weather

Come prepared. The ride goes on rain or shine. It is highly unlikely that it will rain solidly for every hour of the day even if the morning is wet. The important thing is to keep warm. If you are properly clothed the day will progress easily and in difficult conditions the group feelings generated by the riders will help you get to Wollongong and back with little additional effort.

The support crew will be working just that much harder in wet conditions to assist riders but please remember that comfortable clothing must always be your responsibility. Rain or shine, pack a jumper for the train journey home. It could get cold in the late afternoon.

See you there

Now that entries are closed, riders who are participating should check their gear and make sure that their bicycles are maintained and adjusted. Last year there were numerous minor incidents due to the poor mechanical condition of some bikes. The repair crews will be assisting with breakdowns. They generously provide their labour as a goodwill gesture towards all bike riders. Please do not take advantage of their generosity and expect a free overhaul, when you should have had your bike attended to **before** the ride. All parts and accessories used by the repair crews in their work will be charged at the current retail price. Bring some additional cash to cope with the unexpected.

See you on the day.

Get into the right gear! Clarence most exciting range of international Cycle Clothing.

- Shirt
- The
- Arm/



(Switzerland)

The most comfortable cycle clothing available; designed to your body shape.

1. Knicks \$75

Quality lycra material contoured to your body shape with thick foam padded chamois for extra comfort. Pull cord around waist instead of elastic.

2. Bib Suits \$89

Singlet and shorts in one piece lycra with thick foam padded chamois and contoured to your body shape. This one-piece suit prevents any downward movement when cycling, which often occurs in elastic-waisted shorts.

3. Shirts \$79

Extra lightweight lycra shirts designed for summer comfort. Inner lining to soak up any perspiration and to prevent cold air getting through Pockets at rear.

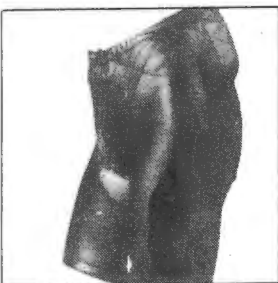
4. Skin Suits

Same as Bib Suit except top section available in various colour combinations and forms a short sleeve shirt.

5. Shoes and Shoe Covers

Top quality all-leather soles and uppers. Sole has reinforced plate and is

shaped for extra comfort. Heel section is curved to prevent the back of your foot pulling out. Location screw for fitting cleats which are supplied. \$79 Shoe covers are designed in an extra lightweight material with reinforced sole piece for long wear. Covers are thermal, water-proof and have a reflective strip at rear. \$29



6. Arm and Leg Warmers

Made of lightweight lycra and designed to be removed once you warm up. Arm warmers available in various colours to match your jersey; designed with thumb location hole to prevent pull-up. \$18 Leg warmers in black with extra padding around knee section. Location holes for foot and heel to prevent slipping. \$35

7. Winter Thermal Suits

Heavy duty, lined lycra track suit with hood for training on those extra cold winter mornings.

Castelli

Top Italian clothing.

1. Jerseys \$59

Beautifully made woollen road jerseys in various colours, printed with European Pro Team names: * GIOS * DE ROSA * GIS * INOXPRAN * CAMPAGNOLO

2. Knicks \$59

Wool and lycra knicks with Castelli "Scorpion" logo. Wool knicks available in sizes 1 and 2. Lycra knicks arriving shortly.

SIDI (Italy)

Quality Italian leather cycling shoes all with rivetted plates for adjustable long wearing cleats.

1. Cycle Titanium \$99

Soft leather upper with titanium lined thick leather sole. The most comfortable racing shoe in the range.

2. Super Cycle \$89

Nylon mesh uppers reinforced with leather at wear points. Sole is leather with metal plate to reinforce.

3. Coloured Cycle \$99

Same as Super Cycle in fashionable red, white and blue coloured upper.

4. Triathlon

New model shoe designed for Triathlon use with VELCRO straps instead of

laces. Otherwise similar to Super Cycle shoes. A limited number of these shoes will be available early to mid November.

Caps

Italian cotton caps available.

Campagnolo: Red, black, blue, yellow, and white. Gios: Blue.

De Rosa: Yellow.

Italian woollen caps available: Campagnolo in black.



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(USA)

Only Skidlid has 14 important safety features engineered for your comfort and protection.

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Australian made lycra
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Clarence St. Cyclery Pro
Team shirts as worn by
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2. Coloured Knicks \$39

Hand-made lycra knicks
now available in various
colours:

★ Red ★ Green ★ Yellow ★
Pink ★ Turquoise. Other
colours made to order.

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Top Australian made
woollen cycling clothing.

1. Knicks \$42

Made of Superwash Wool
with chamois lining.
Comfortable and durable
with elastic waist.

2. Jerseys \$49 - \$59

Available in long or short
sleeve in 100% Superwash
Wool. Range of exciting
colours: Yellow ★ Red and
White ★ Green and White ★
Red, White and Blue

3. Tights \$49

Full length tights in
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Designed to wear over
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cannondale (USA)

Cannondale touring
equipment has earned a
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excellence.

1. Touring Shorts \$59

Because the main point of
contact between a cyclist
and the bicycle is at the
seat, a good pair of cycling
shorts is a must. Cannondale
cycling shorts have a high
elastic back that keeps
them from pulling down
and shifting while you ride.
There is no crossing seam
in the crotch and they have
added a full fleece lining.
Fleece is absorbant, soft,
non-chafing, durable, and
machine washable. The
legs are long enough to
protect against saddle rub,
but their full cut provides
unrestricted leg movement.
The shorts also feature
large size cargo pockets
with snap closure, a
zippered fly, and snapping
waist. Cargo pockets on the
shorts are gusseted for
extra room. For durability
and comfort, the shorts are
made of lycra twill, a blend
of polyester (63%), cotton
(34%) and lycra (3%).

Cannondale cycling shorts
combine functional design
with smart styling to
provide you with the
bicycling performance you
need.

2. Touring Shoes \$77

Cannondale shoes are
styled like a classic running
shoe, but close inspection
reveals the added details
that make this shoe
exceptional for cycling. The
upper is breathable nylon
to keep you foot well venti-
lated. Suede reinforcements
protect the shoe at critical
wear points, especially
beneath the toe clip and
strap. Parallel ridges in the
sole are correctly angled for
sure pedal grip. The sole
also features minimal heel
flair for crank clearance but
is wide enough for stable
walking.



The sole is specially
designed and constructed
to provide you with an
optimum balance of cycling
performance and walking

comfort. It is stiff enough to
protect your foot from
pedal stress and will
transfer more of your
energy to the bike for
efficient pedaling. Yet, there
is enough flex in the toe to
allow the shoe to move with
your foot for walking. In
addition, the padded collar
and tongue, heel counter,
and arch support provide
all-day comfort whether you
are walking or riding.

3. Gloves \$33

Bicycle tourists, racers and
recreational riders are
discovering that
Cannondale makes the
world's finest cycling
gloves. They are handmade
by craftsmen in
Pennsylvania out of top-
quality glove leather. The
backs are hand-crocheted
of 100% cotton to assure
long-lasting comfort and fit.
Fewer seams and full
padding, which extends
over the thumb, protects
your hands from the
numbness and discomfort
that often occurs from
prolonged riding. Hook-
and-loop fasteners make
the non-stretch wrist
closures easy to secure.
You'll enjoy many miles of
comfortable cycling with
these attractive gloves.

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Cannondale:

★ Panniers ★ Pannier Racks
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ILL AT E'S

A look at bikeplanning in the Premier State

by Warren Salomon



Bicycle advocate Alan Parker on the cycleway at the Darley Road intersection. Trees and shrubs have now been trimmed but the intersection is

still blind for cyclists and fast traffic approaching on Allison Road.

The Premier opens a DMR Lemon

The cameras were out in force the day the Premier of NSW rode a bicycle.

The occasion was the official opening of the much maligned and still incomplete University of NSW to the city cycle route.

Where the Premier of NSW goes the press and electronic media flock like a pack of inquisitive school children. When the speeches were over and the obligatory posed photographs were taken it was time for questions.

Bicycle riders present could be excused for feeling left out of the general media's questioning. For the Premier Neville Wran it was another public appearance and the only subject of the questioning this day was jobs.

Of course no mention was made about the job creating potential of cycleway construction projects. The morning was a mere formality. An occasion to keep the State Bicycle Committee happy and show the general public that cycle planning is still an interesting idea.

About 300 metres behind the Premier as he rode along with the representatives of the State's major group (the child cyclists) lay the shame and disgrace of the uncompleted cycleway he had proudly declared open.

The Darley Road intersection lies about two thirds of the way along the cycle route. It is a lethal monument to the Department of Main Roads' refusal to recognise the needs and rights of travelling cyclists.

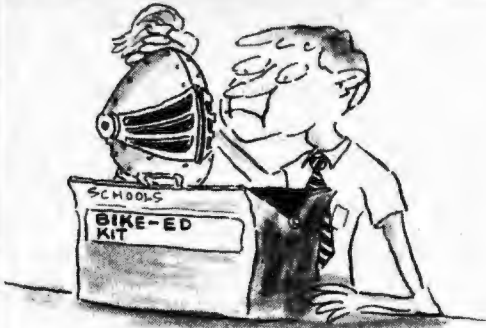
The intersection, a busy 'T' junction crossed by the cycle route was recently upgraded to supposedly include the cycle route, but bike riders using the new path could be excused for wondering where the route goes to once it arrives at the intersection. The approaches are blind to cars from one direction and the pathetic attempt at a dropped curb is steep, badly sited and dangerous.

The Bicycle Institute (BINSW) have been arguing with the DMR over this intersection and have found that the basic problem lies in their fundamental lack of understanding of cyclists' needs as road users.

The DMR in reply states that it would cost thousands of dollars to relocate cables etc associated with the traffic lights and redesign the intersection to accommodate the wishes of the state's most experienced cycling advocates.

The problem seems to lie with the DMR and not the State Bicycle Committee. The BINSW reports that for the first time since the committee was formed it has been showing signs of real group cohesiveness and an ability to grapple with the cycle planning issues in an intelligent manner. That department must realise that it is responsible to all road users, not just the motorised juggernauts it strives to protect.

Somerville



"That's quite alright, sir. Just part of my job in making motorists more aware of cyclists."



"You know, these funding sessions are beginning to affect my standing."



"Tabloid journalism is starting to get a little out of hand..."



Somerville



S.B.A.C.

Interview with David Chivell, Chairman of the NSW State Bicycle Advisory Committee.

Freewheeling: What is the State Bicycle Committee's view of the state of bicycle planning in NSW?

David Chivell: It's our view that in the last year we've made considerable progress. A lot of the items that have been set in train since the Government first announced a commitment in bicycle areas have come to fruition.

There are lots of bicycle projects on the ground and we have made significant advances in the behavioural area, which we feel goes hand in glove with the engineering projects.

F: Could you tell us about the way the State Bicycle Advisory Committee operates?

DC: The Committee was set up in 1979 to advise the government on all aspects of bicycle planning and administer the budget under the dollar funding arrangements with local government.

Application by local governments for funding of cycleway projects is made through the Department of Main Roads who report to the committee on the project's costing and technical detail.

The proposal along with the DMR's recommendations goes to the full committee of SBAC who review the scheme and approve or disapprove its funding.

The Committee is made up of representatives of the Traffic Authority, DMR, Local Government, State Rail Authority, Urban Transit Authority and the Departments of Leisure, Sport and Tourism, Police, Education, Health and Environment Planning.

As well two user groups are represented. These are the Bicycle Institute and the Newcastle Cycleways Movement.

The committee is further divided into sub-committees which reflect the different functions of the bicycle planning area. These sub-committees are Engineering and Policy, Enforcement, Education and Encouragement.

F: What is the present government's policy on bicycling?

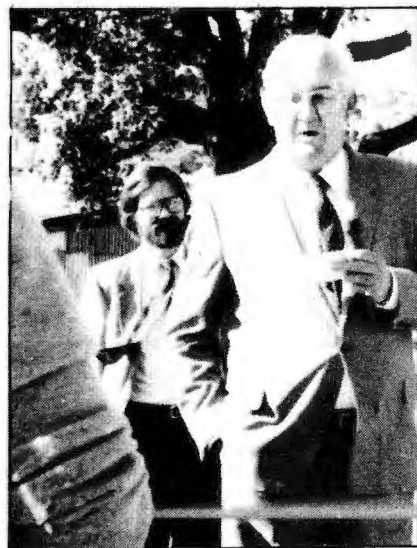
DC: The policy of the government is to encourage the use of the bicycle as an alternative form of transport, but in a balanced perspective where there is due reflection given to the needs of all modes, and the bicycle's position in all of that.

In a sense the bicycle has been very lucky that it has had specific treatment and encouragement which has reflected the particular interest of the Premier and some other ministers, and that was the process which got the whole (bicycle planning) thing started.

Over a period of time we have strived to get it more institutionalized.

F: Does the Premier take an interest in the committee?

DC: Yes, the Premier has had an ongoing interest. He was in fact instrumental in establishing the programme and recently accepted an invitation by the committee to open the University of NSW to the City cycle route.



State Bicycle Advisory Committee Chairman David Chivell (left) and Transport Minister Cox at the opening of the Newcastle East-West cycle route.

F: What of the work in Newcastle?

DC: The government has accepted the Newcastle Bikeplan as the pilot study for bicycle planning throughout the state and there has been a lot of resources put into that area with a view to developing programmes which will have general application throughout the state.

F: So the Newcastle scheme is multi-faceted. What about the Education area? What is being done for example to educate child cyclists in correct riding behaviour?

DC: We selected the Bike Ed programme initially developed in Geelong and with some modification trailed it in Newcastle in 1981.

It has proven very successful, and we have been pleased with the results. In support of that, we have provided money for three in-service training courses to date. This has enabled teachers to teach Bike Ed in over 80 schools in the Hunter Region. We have also run courses in the Wollongong Region and at Narremburn Training Centre for other NSW teachers.

The money was provided in the form of seeding grants to the Education Department to cover costs incurred by the running of these courses.

The Bike Ed courses have been well received both by the teachers and the students and the feedback from the community has been encouraging.

An exciting development in the education area is the setting up of a Road Safety Committee within the Education Department with the possible outcome of integrating road safety into all aspects of the general curriculum.

F: What of the enforcement area?

DC: There have always been laws that apply to cyclists for many years. What's happened recently which we are very pleased about is in Newcastle there is to be a trial law enforcement process.

Our committee has funded the purchase of a motorbike, uniform and printed material for a police constable who will be assigned to bicycle law enforcement. He will also support the Bike Ed programme by going round to the schools when the course is being taught and speaking to the children. He will also be speaking to other police and to community groups on the very important subject of bicycle safety and bicycle law enforcement during the six months of the programme.

F: We have heard a lot about the engineering, enforcement and education sections of bicycle planning, what does your committee propose to do to encourage cycling?

DC: I see encouragement as not being so much as encouraging more cyclists to come onto the road. The government's principle concern is the safety of the users of the roads be they motorists, cyclists or pedestrians, and the concern that we have is that we make the environment of the people who are using the roads on bicycles as safe as possible. So our programmes are aimed at encouraging responsible behaviour on the cyclists' part. They're aimed at educating motorists and getting parents involved in the supervision and the education of their children in safe riding practices. They're also aimed at enhancing community awareness about bicycle safety.

We have recently issued three bicycle safety handbooks which were developed for the SBAC by the Traffic Authority. They had consultants

assist them in that and we also had the services of Spike Milligan to highlight some of the more important points. He did that very effectively and picked up some of the key points.

The books have been distributed through newsagents and cover the whole gambit of bicycle safety through from the laws that apply to cyclists to safe riding to maintenance and road signage.

F: Do you see the encouragement side of bike planning as being to encourage the use of the facilities your committee provides?

DC: The encouragement programme is aimed at educating cyclists in safe bicycle riding practice. It's not seen specifically as to be encouraging more people to get out and mix it with the traffic.

Our plans are to make the environment as safe as possible for the people who use it. The government's responsibility is purely to make the riding environment safer for those people who are using it.

We try to use a balanced programme to achieve this. That to me is a re-interpretation of that fourth 'E' and I think it is a very important re-interpretation.

F: It's common these days for governments to embark on encouragement type activities to inform the general public of the facilities and programmes which they have implemented. Do you see your committee being involved in this type of approach?

DC: Yes, that's true. We haven't made much progress in the area. We haven't gone out and advertised that there are these projects in existence.

What we've done is supported local government initiatives and the knowledge about these projects has come through local press and official openings when they are available.

We are hoping this year to make one inroad in that area. The Bicycle Institute have approached us to help with a project to map cycle routes in the Sydney region. The committee has not yet considered this yet but it is a possibility.

The committee's main pursuit however has been in encouraging safer riding practices and educating parents about the risks that exist particularly for young children.

F: Does all of the funding come from the NSW Treasury allocation to the committee?

DC: No not entirely. As part of the government's initiatives to address growing unemployment, money has been made available from State sources and Commonwealth sources under the Wage Pause Programme and the State Unemployment Relief programme and more recently the Federal Government Jobs on Local Roads programme. These have funded

projects in Wollongong, Kogarah, Port Stevens and many other areas.

F: Finally, what do you see as the future for the cyclists of NSW from the viewpoint of your committee?

DC: The government's position is that it will continue to support the bicycle programme. We are very keen on making more progress in the behavioural areas than we have to date. When you think in the last twelve months we have made very significant steps there and we are hoping that we can continue with that.

We are looking at a review of the legislation and regulations affecting cyclists because within our process for preparing for publication and other areas of the committee, it's become apparent to us that there are some contradictory elements in that legislation that need to be addressed.

We are thinking of some other projects like a plain English traffic handbook which gives a much fuller statement for cyclists than we have attempted in publications like the Spike's Bike Books.

The minister is very keen to get private enterprise involved in a whole range of bicycle safety projects.

On the engineering side we are continuing support of the Newcastle Bikeplan implementation, as well as commencing other projects such as the Lower North Shore and Inner Sydney Bike plans.

We will be continuing with the stated government policy that initiatives in Bikeway planning should rest with Local Government and we will provide financial and technical support for them in their efforts.

NSW Opposition makes the running as the Labor Government loses interest in cycle planning

The recently announced budget allocation of the State Advisory Committee has thrown the state's cyclist advocate groups into a state of anger.

Following titillating statements of an enlarged budget for 1983/4 by Minister for Transport Peter Cox, the Treasurer (and patron of the Newcastle Cycleways Movement) Ken Booth has approved the year's budget of only \$350,000. This figure — the same as previous years — represents a drop in real terms for each successive budget as more projects became eligible for funding.

A modestly enlarged budget of \$500,000 was proposed by the committee but this was cut back by Treasury. The current SBAC budget is now the lowest of all State government bicycle budgets.

The issue has now been taken up by the Liberal Party opposition who have promised to right the wrongs and fund the SBAC with a \$1 million budget (see press release this section.)

Proponents of the Government's actions state that much more money will be spent on cycle projects because of funds flowing from unemployment relief programmes. The Bicycle Institute says that this kind of funding only finances engineering only projects and not the equally important behavioural programmes which improve rider safety and benefit all the state's cyclists not just the lucky few. The result of this approach they say will be a rash of one



Part of the 1000 to 2000 riders who rode in BINSW's Ride of the Century. Riders are shown

here in Oxford Street Sydney en route to Centennial Park to watch the Race of the Century.

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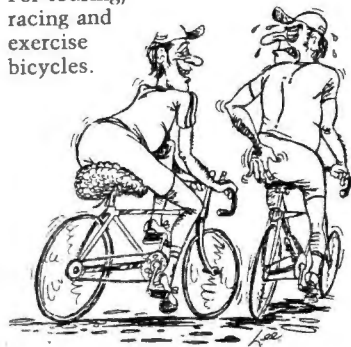
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NSW section

'E' bike planning projects which is contrary to stated government policy of promoting cycle planning through the four 'E's' of Education, Encouragement, Enforcement and Engineering.

If the government is really serious about encouraging cycling as viable means of transport and increasing the safety of those who choose to cycle, then the present funding is inadequate. The SBAC has embarked on a number of important behavioural projects as well as sponsoring two Sydney-region bikeplans and the State's major pilot scheme in Newcastle.

The Newcastle Bikeplan is to be starved of funds at a crucial stage in its development and it is ironic that the person responsible (Ken Booth) is the member of parliament for that area.

With swings of about 10% registered against the government in recent by-elections it is obvious that the political tide has turned and that support for it is on the wane.

The Liberals are at last making a realistic offer to the state's 750,000 cyclists, so the Labor Party is in danger of losing further support unless it can prove that it is really serious about bicycle planning. The BINSW says that the \$1 million figure is a starting point.

Government Politicians ignore big BINSW Rally

Between 1500 and 2000 NSW cyclists took to the streets of Sydney recently to participate in what must have been Sydney's biggest display of pedal power in recent times.

The ride called *Ride of the Century* was organised in conjunction with the Amateur Cycling Union who conducted a special bike race in Centennial Park to commemorate its centenary year.

The ride commenced with thousands of riders converging on Sydney's Domain to hear the shadow minister for Sport, Leisure and Tourism, Max Smith outline his party's proposal to fund the state's bicycle advisory com-

mittee (SBAC) to the tune of \$1 million per year.

Labor politicians from the Prime Minister down were given the opportunity to address the rally but all declined. As most of the replies from Labor ministers declining to attend the rally were received prior to the announcement of this year's disappointing SBAC budget, it can only be assumed that the government is losing interest in the area of cycle planning.

The BINSW *Ride of the Century* proceeded from the Domain through the city streets to re-assemble at Centennial Park. There the ACU took over and staged a 100 km bike race on a closed circuit.

In all a spectacular day for NSW's growing cycling scene. The BINSW is considering holding a similar rally/ride next year as an annual spring event.

N.S.W. Government on collision course with cyclists

The N.S.W. Government is set for a head on collision with cyclists following cuts in funding for bicycle paths back to 1979 levels, Shadow Transport Minister, Terry Metherell said today.

'Only \$350,000 has been provided in the 1983-84 Budget, the same as in 1979-80, and a substantial cut in real terms. The N.S.W. Bicycle Institute had been led to expect at least \$500,000 following discussions with the Treasurer and other Ministers.'

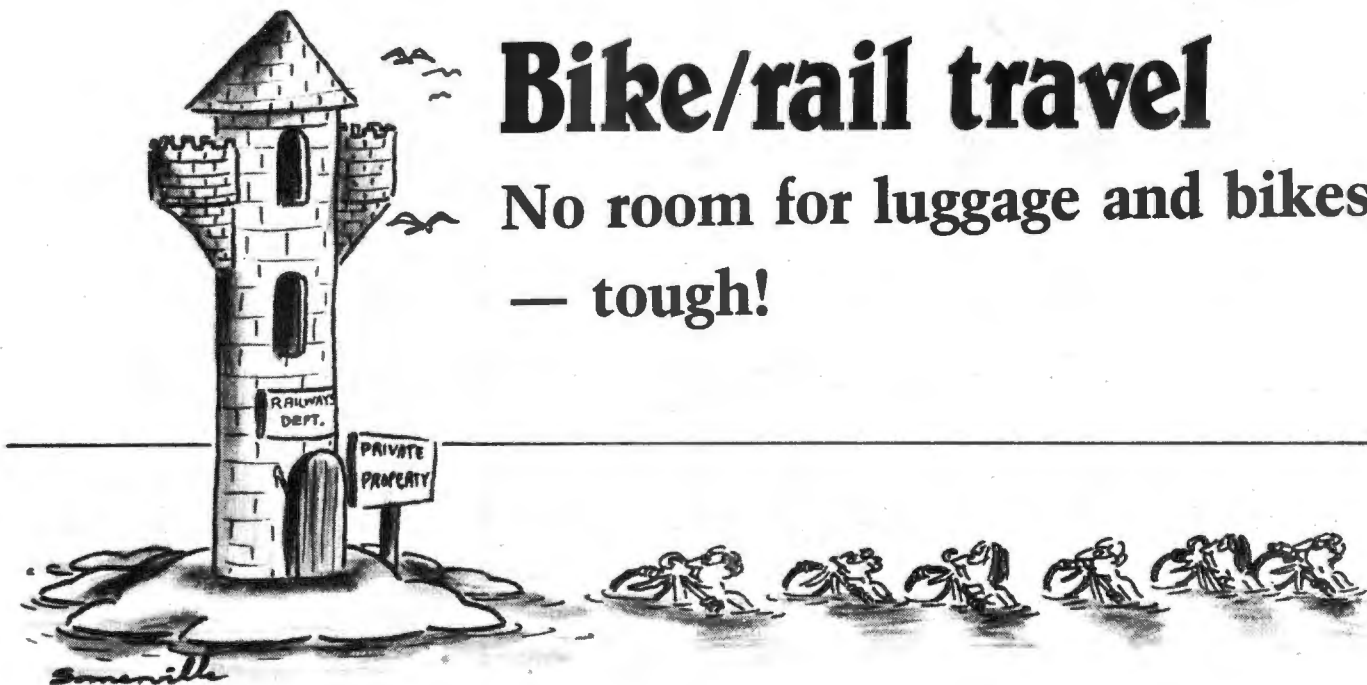
Push On, the Institute's journal, described the Budget decision as a 'total insult to the cyclists of the Premier State'.

'It follows hard on the heels of Mr Wran's opening of the new Moore Park to U.N.S.W. cycleway. This raised false expectations of a fair deal for this State's cyclists, who undertake more than 2 per cent of weekday journeys'.

'The Budget allocated \$772.2 million to N.S.W. roads. The 1981 Sydney Region Travel Survey revealed that 2.1 per cent of weekday and 3 per cent of weekend journeys are undertaken by bicycle. 2.1 per cent of the \$772 million would be \$16.2 million — a far cry from the \$350,000 actually allocated', Mr. Metherell said.

'The Bicycle Institute has opened its campaign to increase government funding to \$1 million in 1983-84, \$2 million in 1984-85 and \$5 million a year thereafter'.

'Many outer areas, such as Manly-Warringah, parts of Sutherland Shire, the Hills and west from Liverpool are particularly poorly served by public transport. New bicycle paths to railway stations, schools and shopping centres could help meet urgent transport needs in these areas.'



Bike/rail travel

No room for luggage and bikes
— tough!

Bikes and trains travel well together. No other mode of public transport offers roll-on roll-off accommodation (at a price) to bicycle tourers.

If the present policies of the States rail authorities are to continue, bike/rail travel will become more difficult resulting in decreases in patronage.

In Europe and other places there is a move back to trains. Mike Doube puts the cyclist's case for turning the tide in Australia so that railways may once again serve the real travel needs of the public.

The customary view of Bike/Rail travel takes for granted the proposition that railways and cycles are natural partners, and of course this is true. However, convincing railway officials of this nexus is very difficult, and cyclists will have to fight to preserve even the few privileges that they now have because the railways are "updating" their systems and in many cases "updating" means "no room for cyclists".

To see just how suitable bikes and trains are as partners in travel, let us examine the opposition. The private car is in some aspects the most convenient way of carrying a bike or bikes. If you want to go touring in distant parts however, you will find some disadvantages. You will have to leave your car exposed to theft or damage and you will probably have to start and end the tour in the same spot.

You can of course hire a car to carry you to your chosen area, but you will find that one-way hire usually incurs a relocation fee that is quite expensive, and it is usually hard to fit more

than 3 bikes into a car that is not fitted with racks.

Aeroplanes are of course another alternative with many attractions. Australia has one of the dearest airline systems in the world, so you can expect to pay a lot of money when you book, but for your money you will receive smiling efficient service and of course breathtaking speed of travel. "A bike, sir? No trouble at all." is the usual reply when you mention your bike, and you can be even happier in the knowledge that your bike is included in your luggage allowance. The airline luggage handlers will generally look after your bike although you may have to resist their suggestions about letting tyres down, (will 14lbs/sq in extra pressure really destroy your tyres?) or taking wheels out.

Interstate jets seem to be able to swallow bikes without any worries at all, but the regional services provided by Fokker "Friendships" are a different matter. If your plane is not fully booked you might just get 3 bikes on board, but that is the limit.

Buses are cheap. They travel to almost all parts of the country, seem to be little affected by strikes and are usually staffed by drivers who will do their friendly best to fit your bike on board. But a bus has limited luggage room and two bikes is usually the limit, so unless your party is two or less you may find that you go bikeless. The great disadvantage of the bus to me is the excruciating discomfort, akin to economy seating in a plane. But what can be borne for an hour or two in a plane is less pleasant for 8 — 16 hours in a bus.

So what does rail travel offer to compete with the above delights? First of all there is no worry about taking your bike. Even a party of 20 bikes can be carried in the guard's van of a country or interstate train. You can usually load and secure your bike yourself so you can be happy in the knowledge that the bike will travel well, and because there is so much room there is little danger that other freight will be loaded on top of your machine. There is also a lot of room in a carriage so you can carry your panniers with you and stow them on the racks above your head.

Rail travel is reasonably cheap, slow and relaxing. If you catch one of the overnight interstate expresses you will find it cheaper than an economy air-fare and it puts you in a delightful frame of mind to start or finish a holiday. Because you are on holiday the slowness of your progress matters little, and the sheer convenience of it all is attractive.

The drawbacks, however, are legion. For a start you will find the staff rather different from bus or airline staff. Instead of the 'can I help you' at-

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titude you will find a feeling that if only passengers could go away we could run a great railway. A second drawback is that you pay heavily for taking your bike. It irks me that my bike can be considered part of my luggage if I go by plane but not if I go by train. My dictionary suggests that luggage is the gear that you take with you on your travels. The railways take a more narrow view — eg from the N.S.W. State Rail Authority timetable — "Luggage consists of wearing apparel and other personal effects suitably packed." They generously offer you 80 kg free of charge — it may as well be 800 kg because few if any people will ever approach the 80 kg limit. But just try to take an 11 kg bike with you. For a start it's **not** luggage, and for a second it will cost about half an economy fare. A *Freewheeling* article in issue 20 suggested that a bike bag is the answer. I have one and have used it for 5 years and I have had to pay for a bike in each case that I have used it. You see, to a railway mind a bike is a bike even if it is packed in a case.

But for all this, the train has to be the preferred method of transport for the cyclists — you just wheel your bike on at the start and wheel it off at your destination and you are ready to go. No fuss at all.

Having said that bikes and trains go together, let us see what the future holds. Trains are the most efficient means of moving people and goods in terms of tonne-kilometres per litres of fuel, because a steel wheel on a steel rail has far less friction than a rubber wheel on an asphalt road. Now that we have at last realised that our supplies of fossil fuel are finite we are all starting to pay at least lip service to fuel conservation, so such efficiency is important.

Overseas, governments are realising that money spent on trains is money wisely invested, as good train services will carry huge numbers of people without using extravagant amounts of fuel as planes and buses do. In Europe and Japan trains are so fast and frequent that planes cannot compete until the distance is greater than 700 km. In Britain it is possible to go from London to Glasgow, 645 km, in under 5½ hours, centre to centre. If similar times could be applied to Australia then Adelaide — Melbourne would take about 6½ hours and Melbourne — Sydney about 7¾ hours, times that would surely draw a lot of traffic from the bus and plane market.

In the U.S.A., a country comparable to ours in terms of distances and reliance on cars, there is a resurgence of passenger train travel. In the 1960's the passenger train almost disappeared, but a Government sponsored corporation brought life back to the rails and now Amtrak carries 4% of the nation's passengers.

The world is changing. Fuel is becoming scarce, and despite the current oil glut, the price will continue

to rise. Cars will become too expensive to run and public transport will again become the norm as it was at the turn of the century.

People are becoming more aware of the vital need for physical fitness and will go to any lengths to obtain it. The current world trend to "jogging" is one manifestation, the growing interest in cycles as recreation vehicles is another. Bikes are becoming very popular now as a means of travelling on holiday, and this popularity can only grow.

A penetrating mind in the railways (okay, that's a joke. It's like a square circle — it doesn't exist) might just work out that the railways need bums on seats if the trains are to run at a profit. Cyclists are becoming more numerous, they are often going to take their bikes on holiday and trains are the most suitable way to do this. Therefore, here is a growing, captive market that is worth attracting for mutual benefit.



The truth is that the railways are updating in a rather different fashion. N.S.W. has introduced the XPT (jargonese for Express Passenger Train) which is a copy of the British High Speed Train. It is designed to carry passengers in rather more cramped luxury than in conventional trains, the trade-off being higher speed. Present plans I believe are for most country trains in N.S.W. to be replaced by these trains leaving only a few conventional overnight trains such as the "Brisbane Express." Even the Melbourne — Sydney route will be revolutionised as present plans are to replace both the "Intercapital Daylight" and the "Spirit of Progress" with the XPT leaving the "Southern Aurora" as the only conventional train between the capitals. Victoria has ordered identical equipment, and again their country services will be modernised by these trains.

The drawback of these trains is the fact that there is virtually **no luggage**

space available and certainly no room for bikes. I suggest that the railways now think that a typical passenger is a weight lifter smuggling gold, as no one else could have a compact 80 kg load that can be heaved into the overhead racks. Little old ladies and cyclists are welcome to travel without their luggage.

The bad news is that N.S.W. is going to virtually be banned to cyclists. The railways will counter by saying that bikes can travel by freight train, but that of course is a bureaucratic nonsense. The bike will either have to be sent on by freight train some days ahead, depriving cyclists of the use of their machines, before they leave, or the bike will arrive after you and in a dubious state of health. In addition the freight centres in major cities are usually some distance from the passenger terminals.

If the XPT does start to run between Melbourne and Sydney that route will also become non-bike as at present bikes are not carried on the "Aurora". It's grim news.

It's all so stupid. Trains are an excellent way to travel and will become better in the future. People will travel with their luggage, so it is only reasonable to provide space for it. And if space is provided for luggage then it can be provided for bikes. In the rather old-fashioned Victorian Railways luggage vans are the simplest and most efficient system for carrying bikes that I have come across. It consists of simple hooks in the roof. The bike hangs upside-down suspended by the rims. The bike is out of the way, it cannot be damaged and 8 bikes can be carried without in any way taking up room that is needed for luggage. But "progress" dictates that these vehicles are to be replaced by trains which can carry only people.

In England a scheme to carry bikes free of charge led to such an upsurge of rail travel that the authorities were embarrassed and had to place restrictions on travel. In Australia such a thing would be unlikely, but even so, it is better to fill every seat at an economy fare than to have a number of seats empty, even if those passengers have paid access fares for a bicycle. A seat in a train is a rather perishable commodity, and once the journey is completed the carrying opportunity of an empty seat is gone. It is better to fill every seat at any cost than to let empty seats go to waste.

Cyclists in Australia will have to make a lot of noise if the fate I have outlined is to be avoided. We need a national lobbying voice such as the CTC in England. Clubs and Associations will have to become organised so that the railways and governments can be made aware of their mistakes. Given public pressure and sympathetic administrations, trains could once again become what they used to be — a safe, economical way for a cyclists — a citizen — to see this wide and wonderful country of ours.



A 'Star' of the 30's

Last Christmas, Malvern Star, Australia's oldest and best known brand of bicycle closed its Melbourne factory. It marked the end of an era when Aussie bikes and Aussie sporting cyclists were world-renowned.

The decade of the 1930's was Malvern Star's boom time. In the midst of an economic depression the bicycle was the only means of personal transport available to the majority of people. Joan Ford grew up then and tells of the making of a great home grown product.

Snap shots from Joan Ford's family album. Left to right top to bottom: 'The organizing committee for the big Newcastle bike rally. My father is marked with a cross. Some of the 3000 people who attended the 1937 rally. Novelty riders with my dad at the start of the rally near the old Civic theatre. A Malvern Star brochure from the thirties. My little sister sits atop the trike second from the right.'

by Joan Ford

'Malvern Star' was founded and made famous by the late Sir Bruce Small and the cycling 'superstar', 'Oppy', later Sir Hubert Opperman. My father worked for Bruce Small in the 1930's opening branches of the Bruce Small 'empire' in Bendigo and Newcastle. He also organized bike races for promotional purposes and at one time was in charge of a team of professional cyclists working for the company.

In 1935 he was asked to open the Bendigo branch and much publicity accompanied the opening. Even then, Bruce Small, as he was to show later when he became Mayor of the Gold Coast, was a great publicist. Dad became 'Uncle Mac' on the children's session of the local radio station. In this role he ran essay writing competitions for children on biking themes. The prize for the best essay was of course a 'Malvern Star' bike. The presentation of these prizes was a regular weekly feature when schools in the area assembled at the local picture theatre and the presentation to the lucky boy or girl was the highlight of the programme.

In 1937 my father managed the Newcastle branch. I was the envy of my school friends when the great

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A REAL BUILDER OF ROBUST YOUNGSTERS

'Oppy' visited our flat over the shop. He was then training for his record bike run between Sydney and Newcastle, a record which I believe he still holds.

As there was no bridge across the Hawkesbury River in those days, Dad had to arrange for a fast motor boat to convey 'Oppy' and his bike across the river in the quickest possible time — the ferry being much too slow in the circumstances. I remember 'Oppy' then as a quiet, polite man and a dedicated sportsman. He was very strict about diet when training. His staple foods were bananas and orange juice and a plentiful supply of both had to be always at hand.

The 1930's was a boom cycling period. In Newcastle wonderful times were enjoyed at huge bicycle rallies attended by people of all ages. They rode a wide assortment of bicycles, from the conventional two-wheeler lady's or gentleman's touring model to tandems, penny-farthings or twin cycles on which two riders sat side by side. At one meeting in 1937, I remember a crowd of 3000 people gathered outside the Civic Theatre. At the sound of the starter's gun the crowd surged forward singing "The Biking Song" to the tune of 'Daisy, Daisy', played by a 2HD sound car which led the rally.

'Oppy' was the hero of most young boys of the day and it was the ambition of most kids to own a 'Malvern Star' bike 'just like his'. Malvern Star brochures would attest to the body-building virtues of their sturdily built models made of the 'best English Tubular Steel' with 'ball-bearing' pedals and wheels and Solid Hide Saddle'. A boy's model with 24" wheels sold for seven pounds ten shillings. For some reason a girl's model was ten shillings dearer. Each bike was guaranteed for 10 years and insured free against damage and theft. About 1935, my little sister modelled for a publicity brochure by sitting on a 'Malvern Star' tricycle 'suitable for children aged from 3 to 5 years'. This tricycle could be purchased for three pounds nineteen shillings and six-pence!

The great interest in bike riding so evident in the 30's diminished after the war with the advent of the motor car, making other sports more accessible and more popular. There was a complete downturn in the 60's. Now the 80's has brought a renewed interest coinciding with the modern trend toward physical fitness. However it seems unlikely that the comparatively gentle sport of bike riding will reach the heights of popularity that it once enjoyed. To a generation reared on celebrity cricketing and 'free-for-all' football, bike riding is not so likely to appeal! We shall see though!

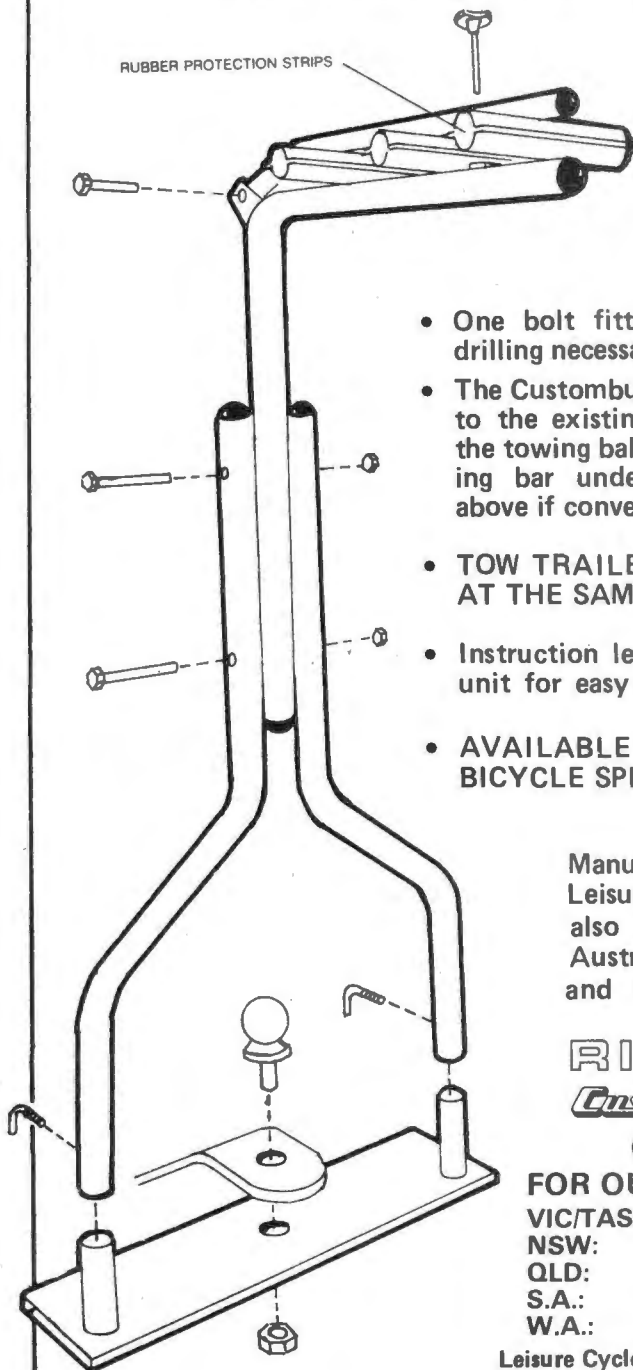
'Malvern Star' bicycles are now imported. Sadly, the 'Star' of the 30's which shone so brightly for my father and Sir Hubert Opperman has lost its sparkle.

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World Bike Ride Update

European contrasts



World bike riders pause for map consultations in a Czechoslovakian forest.

The engaging saga of those globetrotting 'peacemongers' — members of the World Bike Ride for Peace and Nuclear Disarmament (WOOBORA) has gradually unfurled in *Freewheeling* since March last year.

Having spun their wheels from Melbourne to Darwin, and gingerly up through Asia, six of the Wooboras found themselves ensconced in Hiroshima, anticipating the European summer.

Christopher Williams, who previously reported on their trails in Japan, now describes the dichotomy he found in Europe.

Early in May I arrived at the International Convention Centre in Berlin where the Wooboras had chosen to regroup. Not knowing whom I would meet, it was a joyous occasion to see their happy faces: Jennie, Zohl and Pavel, rode from Copenhagen to Hamburg where they met Derryk having flown in to Amsterdam from Bangladesh; Jennie-Marie and Mira having flown from Tasmania, Vikki from Bangkok, Martin from West Germany and Paul and Kathy from Japan. For some it was 10 months since we had last seen each other.

Then came the serious business of our input of Australia and the Pacific Region into the Conference. The 2nd European Nuclear Disarmament Conference attended by over 3,000 delegates proved to be an unmanageable event for many people. Firstly, the sheer size and complexity of the organisation and the building reduced many people's input to a

minimum. Secondly, most forums and discussions were too crowded for individual response, and often the panels were exclusively male "experts" — okay for some fact finding but not very helpful to the many grassroots peace movements trying to stop the new generation of medium range nuclear missiles from coming to Europe this year. Thirdly, no delegates from the Warsaw Pact countries could come because they couldn't get visas. People from East Berlin were also in this situation.

At the conference we learned how serious the situation is in Europe, showed our slides and our film "On Sacred Ground" and made many contacts and friends.

Soon it was May 27 and time to begin our journey to the west: by hitchhike — a kind reply to our advertisement brought us an empty Kombi to take our 9 bikes to Braunschweig — it is not permitted to ride bicycles

anymore from West Berlin to the West German border.

Then the riding began, as close as possible to the border and via back roads, nearly always into a headwind.

Braunschweig: Film evening, meeting with the Mayor and the press and accommodated at the Green Party (Die Grünen) office.

Salzgitter: Stayed at the local Nuclear Free House. Arrived to a welcoming party with many people from Turkey with their wonderful cooking and music. We had a great film evening and were given a generous donation.

Hersfeld: Into the "Fulda Gap". Here the U.S. expect the Russian tanks to come pouring through and have 121 Hiroshima size nuclear bombs waiting (Plan Zebra). Many locals passively accept that they will be the first to die if a war starts here and thus do nothing. Our welcoming group think otherwise: they have sprayed fertilizer on their local park in the shape of a large disarmament symbol, and here the grass grows much higher and greener.

Coburg: We cycled 91km after 1 pm into a strong headwind, but reached Coburg 1 hour after dusk at 10.30 pm.

Bayreuth: Martin, our German host's home town and a sort of home-coming for us — mail, bike-repairs, re-unions and a 2 day rest as guests of the local Evangelist Church. Martin rejoined us — he had cycled 5,000 kms with us in Australia — and next day Helgard arrived, also from West Germany. Murray and Miranda arrived from Rome, pale and tired after a long Japanese winter.

At the centre where we were to show our slides was an exhibition of Aboriginal Art from the Centre — magnificent paintings which made us all home-sick.

Mitterteich: Near the Czechoslovak border, the German Government plans a large low-level nuclear waste dump. As we entered the town we saw many "Autommüll Niemals" (Atomic Wastes Never) signs and were welcomed at the Shell garage, owned by local anti-nuke people. 70% of the town is opposed to any waste being dumped in their backyard.

June 16: Czech. border: "10 anxious Wooboras are patiently lined up waiting for our passports to be checked. We are on our best behaviour for a good reason: one of us escaped with his parents in 1968 and this is his first visit back to his country since then. Now an armed guard checks our passports, a friendly smile and chat and we are waved through — benefits

we enjoy being an 'officially invited Peace Group' "

We are on our way to Prague to attend the "World Assembly of Life and Peace against Nuclear War", and immediately notice the difference: automatic machine guns on the barbed wire fence makes way to quiet, car-free roads and old, battered buildings — like stepping back in time. Food is cheap, vegies about one third the cost in Germany. We camp out in a small forest on our first night and enjoy the calmness of Czechoslovakia.

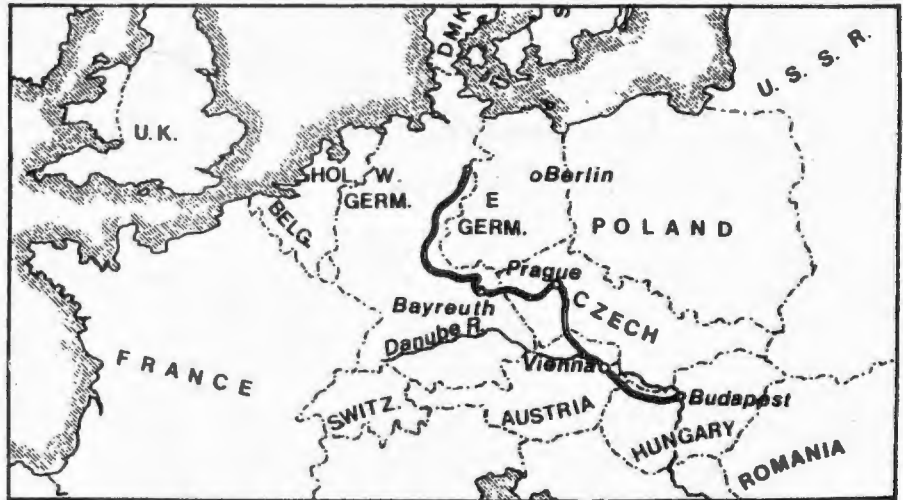
Life in a Communist country is different than say Germany. Examples: there are often queues to buy ordinary foods at stores that only open for 3 or 4 hours each day; many magnificent churches and palaces are left to run down and are boarded up; there are no "discounts" or "specials" at supermarkets; no throw-away bags or tin-aluminium cans. All juices and beer come in returnable, refundable bottles (great system!); bikes are exchanged or rebuilt from second-hand parts; "Peace" is an official government policy and workers must pay for Peace Conferences by direct donations from their pay packet; the U.S. dollar is a sort of God figure, and Czech tourists must pay exorbitant amounts to their banks to buy hard cash to travel with — hence a black market in money exists; the variety of shops is very limited, with many shops just selling the same products.

People are much more shy, guarded, almost afraid to talk to you — you soon realise that this is a Soviet-controlled country, when an older person will come up to you and talk of the old days. You feel that a rigid system controls their lives.

On to Prague, a small but beautiful city, we are escorted straight to the "Peace Village" at the student quarters at the edge of the city. Immediately, you realise that everything is planned, structured, leaving no room for spontaneous action; we are housed in separate rooms requiring 4 security checks before entering. Later this is increased to 8! Woobaras feel isolated and insulated from the ordinary Czech people. At the World Assembly, many speeches are made saying how bad the U.S. military is, but no mention is made of the Soviet military. One day there is an illegal demonstration and arrests are made, but we are unable to learn who they were or what they were doing. We mention Charter 77, an independent underground peace group but our officials just say, "no, those arrested were just drunk and disorderly".

We make a few contacts, meet up with old friends from the official Australian delegation, many who met us as we cycled in Australia and enjoy their company on a boat cruise. When we leave Prague, we are a little wiser, but also feel that there is little we can do to change the oppressive system many people live under.

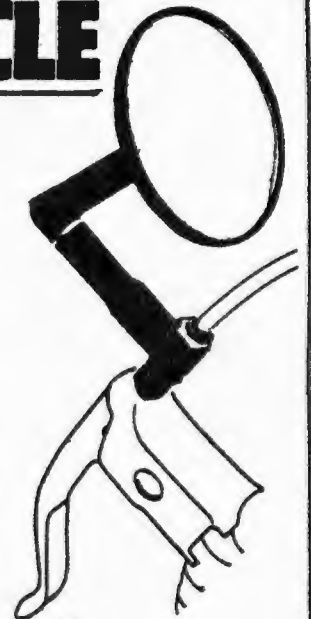
Unable to have our visas extended we must cycle directly to the Austrian



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border, past many cherry trees, their fruit ripe and will give more than one Woobora a belly-ache. Passing many polluted lakes and rivers we encounter mosquitoes, making it too unpleasant to camp out.

Near the border, the guards patrolling with dogs play a joke on me, while pretending to 'arrest' the others. Jennie-Marie sticks peace stickers on their rifle-butt and they laugh with us.

Soon in Austria we notice the difference, expensive fast cars, expensive prices — we find a beautiful lake in a forest and enjoy a quiet rest day. We meet Millie and Margarete, two young Austrian women who decide to join us until Budapest.

Before Vienna we visit the mothballed Zwientendorf Nuclear Power Station. Completed in 1978 but never allowed to operate because the following year, 50.5% of the Austrian people said 'No' in a referendum. Typically, we did not receive a very warm reception here.

In Vienna, more bike repairs, a film evening and accommodated by members of the 'Hiroshima' group. We also visited our Nipponzon Myohiji Buddhist friends who are building a Peace Pagoda beside the Danube.

When we left we decided to follow the Danube all the way to Budapest but after 3 nights of fighting off large numbers of mosquitoes, we decided to go inland.

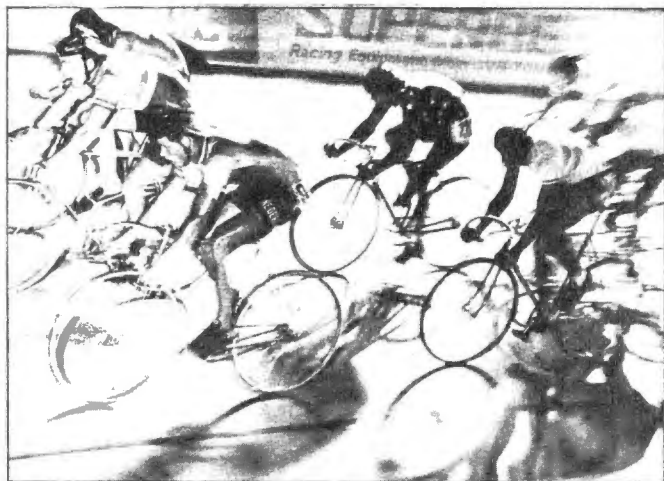
July 12: "... we cross over into Hungary, no problems."

Hungary is different from every other Socialist country. Every person says something different about living here. We found people very open and friendly, many would give us money and occasionally food. The shops are varied and there are many small private industries. It is said that Hungary is the "Gayest Camp in the Eastern Block!" Peace again is official government policy but this time independent peace groups are tolerated, (only just) but not encouraged. The government leaders still do not allow public criticism, of the kind you would find in the west.

Rock music is everywhere, people wear very fashionable clothes and are free to travel to the West — with certain limitations. Generally, the lifestyle here appears the same as in the West, only the queues are longer. We spend days trying to organise our trip to USSR in vain and days trying to buy tickets and get visas through Czechoslovakia and Poland. Moscow does not want us to ride bicycles in USSR, we have been trying for almost one year and still seem no closer. After one week of frustrating tensions and telephone calls, we part ways. Paul, Kath, Jennie and Zohl leave for Sweden while Murray, Deryk and I spend 4 more days organising a trip to Filand via Poland.

We plan to regroup in Sweden. We still have a long way to go to disarmament.

Track racing explained



This column is about the sport of bicycle racing in all its varied forms, such as fitness, technique, equipment etc., that make bicycle racing the most exciting of all sports both for the spectator and competitor. It will primarily be aimed at the novice racer or the reader who would just like to know what those crazy cyclists with the shaved legs are all about. Hopefully it will contain some information which will benefit the more experienced competitor and hard riding commuter/tourist as well.

With the onset of winter the focus of the racing scene is the track and since many of the subtleties of track racing are lost on the uninitiated, the rest of this column will be devoted to a brief explanation of the various types of track racing.

The most spectacular track race is the Spring. Two or three riders ride three laps of the track (usually 333 $\frac{1}{3}$ m. each) with only the last 200m. timed. Rather than ride the full distance flat out which would quickly exhaust their oxygen supplies, the riders play a cat and mouse game. Speeding up, slowing down, sometimes coming to a complete halt balancing on their single speed, fixed wheel bikes. The riders try to force each other to take the lead.

Some riders prefer to take the lead into the final sprint but most prefer the advantage

of slipstreaming behind another rider and then bursting around them as they tire. As the final lap approaches the riders will move high on the steep banking of the track, one often seeming to push the other into the fence, until one rider makes a move flying down off the banking with the others in hot pursuit. In the mad dash for the finish, the following riders must decide whether to risk an inside pass or take the long way around the outside.

Probably the most psychologically demanding track race is the Kilometre Time Trial. Each rider is alone on the track racing against the clock. The riders go deep into oxygen debt and must fight their burning lungs and the pain of lactic acid in their legs by riding smoothly and in an aerodynamic position for 3 laps. Then begins a finer torture waiting to see if your time is bettered by a following rider.

The Individual Pursuit has two riders starting from opposite sides of the track, the object being to catch your opponent within the race distance of 4000m. Usually in top class competition the riders are not overtaken so the winner is the fastest rider over the distance.

The Team Pursuit is like the Individual Pursuit except that it involves two teams of four riders. The precision of a good pursuit team is fantastic to watch as the lead rider swings

up the banking on the curve to come down with his front wheel only millimetres behind the rear wheel of the last rider. A split second miscalculation and the wheels can overlap causing a fall or the gap may be too large causing the rider to waste energy getting "back on". The time is taken when the rear wheel of the third rider crosses the line.

The Points Race will be an Olympic event for the first time in 1984. This is a massed start event of up to 50km. There are sprints every 10 laps which earn the first four riders 5, 3, 2 and 1 points respectively with the last sprint earning double points. Any rider who can lap the field automatically takes precedence no matter how many points have been accumulated by other riders.

The preceding events are all contested at World Championship and Olympic level but other events are also held. The most popular is the handicap with the fastest riders

starting from the starting line and the other riders spaced around the track at 5 or 10m. intervals according to ability. Sydney readers should watch out for the Bennett 1000 which always provides a spectacular afternoon's entertainment at the Camperdown velodrome.

A Madison race is for 2 man teams. One rider is actually racing while the other rests up by the fence till, swooping down, he is flung into the race by a hand sling or by a special pad sewn into the shorts. Other races include Devil Take the Hindmost, a massed start race where the last rider across the line each lap is eliminated and Keirin racing where the riders circulate behind a pacing motorcycle which swings off the track with two laps to go.

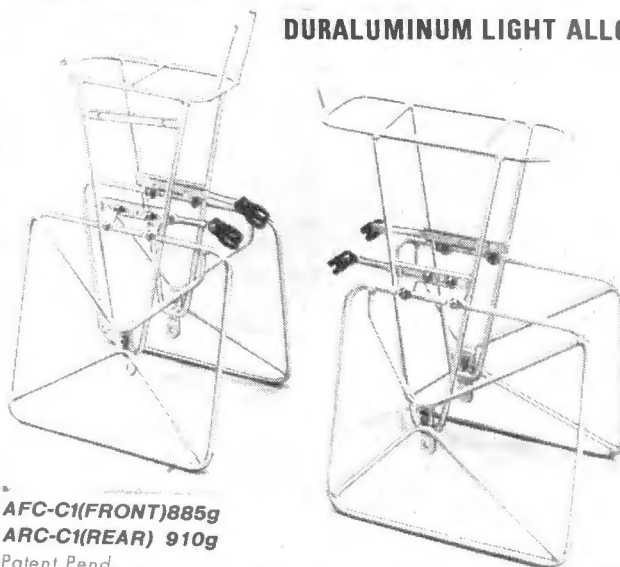
This summary cannot express the colour and action of a track meeting. To find out more get down to your nearest velodrome on a Saturday afternoon for some real excitement.



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Tandem Talk

by Paul Farren

Coming to a stop!

In an emergency, one brake will stop a loaded single bike on a fast descent but will fail to do so with a tandem, hence they are commonly found with an extra brake for that occasional disaster, such as when a cable snaps. This discussion will centre on tandem brakes, how they differ and the reasons why.

The extra third brake is often the most variable feature in a group of tandems. It is usually a hub brake either front or rear (sometimes both), operated by either captain or stoker. The hub brake is popular due to its ability to operate independently of the front and rear rims. During prolonged braking the rims can become severely heated.

An additional rim brake merely accentuates rim heating on long descents and it can lead to tyres blowing off the rim or old punctures opening or even the tyres simply melting and fusing to the rim.

Although the hub brake is independent of tyre problems, it can itself also suffer from over-heating which may lead to a fading effect or worse still the axle grease may boil and run out thus saturating the hub brake shoes. Judicious use of all three brakes in a rotational manner will enable descent of the worst hill without regular stops for a rim cooling session.

Frank Whitt and David Wilson in their book *Bicycling Science* (MIT Press), give mathematical explanations for the increased speed of tandems down hill and also the conversion of kinetic energy to heat during the braking process. The reader is referred to this excellent text for an in depth understanding of the two topics mentioned above.

There are a dozen or so suitable hub brakes available but the commonest in Australia is the Atom, joined recently by the Araya. There are an increasing number of disc brakes similar to those used on motorcycles coming on to the market, usually



This tandem is fitted with cantilever brakes. Below: The Dia Compe short-reach cantilevers. Long reach mountain type brakes would be more suitable for tandem use.

made by small manufacturers although Shimano manufacturers an inexpensive type.

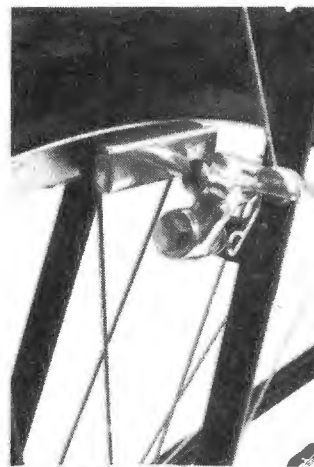
The most commonly used rim brake is the braked cantilever type with long leverage arms. The news that Mathauser and Mafac are ceasing cantilever brake production is a sad loss to the tandem fraternity. Fortunately Dia Compe and Shimano now both produce superbly engineered cantilever brake components which strangely were introduced for the mountain bike market rather than the tandem world. A number of other supposedly mountain bike components are benefiting us similarly.

Our personal touring tandem has front and rear cantilevers operated by left and right levers respectively. I find this stops the bike quite adequately under most conditions but due to having replaced the Mafac levers with short reach the rear brake frequently gets pulled back right against the

handlebars and must therefore be kept in good adjustment. Mafac levers are usually extra long reach because of this problem but need extra long hands to operate them! The hub brake is at the rear and operated by by trusted stoker and on long descents our temperamental hub brake (Phil Wood type) give my frozen fingers an occasional well earned rest.

For double operating levers I prefer the use of a front hub as the cable lengths are kept short thus improving efficiency. Double lever i.e. one lever operating two brakes can be extremely exhausting to use on prolonged descents.

Nevertheless we are in a much better position than those stalwart riders of the 1890's whose only options were a fixed wheel and plunger spoon brake operating on the front wheel. Nowadays a variety of components are procurable to answer individual braking problems.



Paul is currently President of the Tandem Club of Australia and the owner of a number of new and vintage two seaters. He is also editor of a very lively newsletter for the TCA.

The Tandem Club of Australia can be contacted by writing to the Secretary TCA, 71 Tivoli Road, South Yarra Vic 3141. The TCA is not the only tandem club in the country. One of the objects of this column is to foster a growing interest in tandems so future editions will bring readers up to date listings of other clubs both local and perhaps overseas.

AUDAX

How bold are you?

So you have bought a fast lightweight bicycle to keep fit.

Perhaps you don't want to get into feats of endurance and extreme physical effort such as competitive road racing or triathalons; so what can you do? Terry Cross reports on an old idea which is beginning to take root here in Australia.

Similar questions to the one above confronted a group of Italian sportsmen at the turn of the century. Not world class athletes, these fellows wanted to simply spend a day involved in various sports. They reckoned sunrise to sunset at 14 hours and a reasonable cycling distance for that time as being 200 km. This idea of a standard test so captured the imagination of cyclists that in 1905 Henri Desgrange, who was later to found the Tour de France, imported the Audax idea to France and used his journal *L'Auto* to publicise it.

The success of the 1904 season saw the riders who had gained the Audax qualification by riding 200 km in 14 hours, forming the Audax Club Parisien and taking over the conduct and organisation of Audax events. Audax by the way is a Latin word meaning 'bold'; and it really says something for the Parisians of the time to be bold enough to tackle 200 km on the roads and bikes available then.

Henri Desgrange having patented the rules, contented himself to publish the results and comments in *L'Auto*. As we shall see, the patenting of the rules caused some fundamental changes to be made later, but the system employed then is still used today under the name of Euraudax. Groups of rides under accredited leaders would ride 200 km to a schedule calling for an actual cycling speed of 22 kph and stopping at predetermined places for rest and refreshment.

In 1921 the Audax Club Parisien came unstuck. In conjunction with the Touring Club de France, they were organising the recommencement of events as they had been done in 1913 and 1914, but the post war resuscitation was aided by

Desgrange's keen rival journal, *Echo des Sports*. Naturally objecting to the ACP aiding a rival, Desgrange published in *L'Auto* that he was withdrawing his franchise to the rules from the ACP. So, then, the Audax Club Parisien was placed on the horns

of the dilemma of being obliged to proceed with its published calendar of events, but not being able to use the rules in order to conduct them. The solution of course was to change the rules, and so the modern system was born.

So what are the modern rules? Basically, riders were no longer to be tied down to fixed groups and fixed time tables, instead they were allowed to proceed at their own pace, providing speed was maintained between an upper and lower fixed limit. Riders could stop wherever and whenever they wished for the rest and refreshment, but were obliged to check in at specified control points along the route. In later years access to support cars etc has been limited to checkpoints. These control points opened and closed at times which corresponded to the maximum and minimum average speeds which are set today at 30 and 15 kph. The rules remain the same today for the very good reason that they work and they continue to appeal and challenge.

Audax events are not races, the upper speed limit takes care of that, although it is interesting to work out the average speeds of the winners of some long distance races. Rather the events are intended as a challenge, a nettle to be grasped by ordinary cyclists like you and me for fitness sake, or perhaps simply because they are there. These are rides which could

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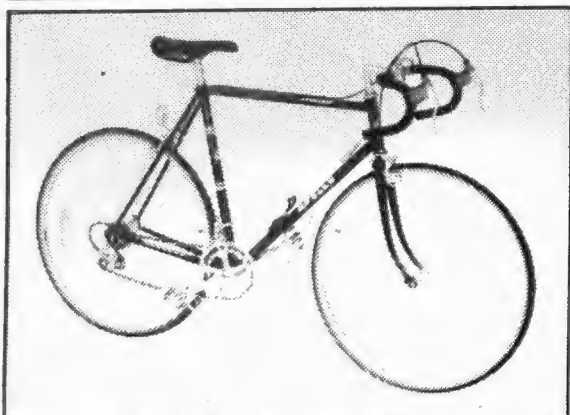
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The Top Triathlon Trio



APOLLO 3.5

Frame	Tange Cr-Moly and Mangaloy
Bars/Stem	Nitto light alloy
Brakes	Shimano 105 Golden Arrow QR
Cranks	Shimano 105 Golden Arrow 52/42 x 170mm
Pedals	SR alloy with toe clips and straps
Derailleurs	Shimano 105 Golden Arrow
Freewheel	Shimano U.G. 6 speed 13/24 teeth
Wheels	Araya light alloy Q.R. S/F hubs
Saddle	Apollo new Ariake II
Seat pillar	Sugino alloy AC-H 26.8
Weight	12kg approximately



APOLLO IV

Frame	Tange full Cr-Moly
Bars/Stem	Nitto Technomic light alloy
Brakes	Dia Compe 500 Compe G
Cranks	Sugino Aero Maxy 52/40 x 170mm
Pedals	KKT Pro-Vic II alloy, toe clips/straps
Derailleurs	Suntour ARX
Freewheel	Suntour ultra 6 speed 13/24 teeth
Wheels	Araya 27 x 1in light alloy Q.F. hubs
Saddle	Apollo Aero Ariake imitation leather
Seat pillar	SR CT-P5 micro adjust
Weight	11.5kg approximately



APOLLO V

Frame	Champion No.2 double butted Cr-Moly
Bars/Stem	Nitto Aero Crystemblue light alloy
Cranks	Sugino Aero DAAS 52/42 x 170mm
Pedals	MKS ESQUARTZ with toe clips/straps
Derailleurs	Suntour ARX
Freewheel	Suntour ultra 7 speed 12/24 teeth
Saddle	Apollo Aero Ariake imitation leather
Seat pillar	SR CT-P5 micro adjust
Weight	10.2kg approximately

All above models are available in multiple frame sizes from 53cm to 63cm.

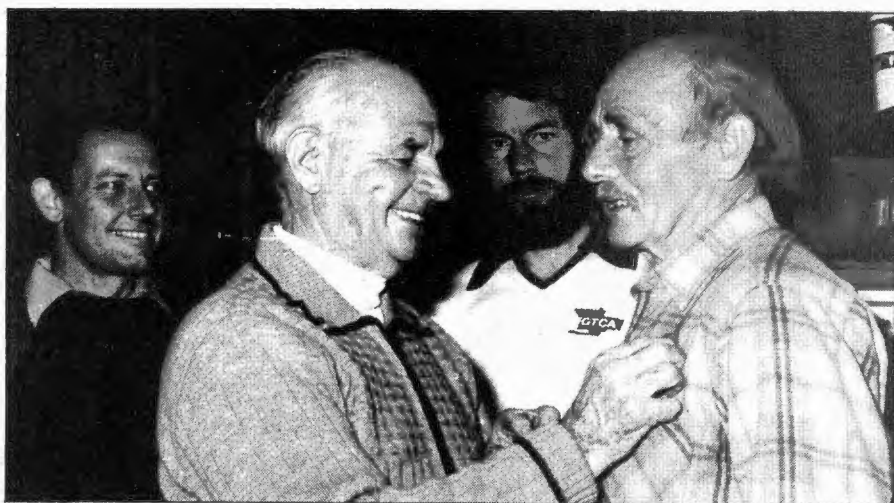
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Sir Hubert Opperman presents an Audax award to 65 year old Ron Finsell.

be in all probability greater than anything ever tackled before. They challenge people to rise to the occasion, to stand up and be counted, but mostly to be bold.

By the same token, the lower speed limit is well within the capacity of most ordinary rides. To put things into perspective a little more accurately, in the UK recently an eight year old completed the 200 km Sheffield-Lenevlin-Sheffield ride. He did have an advantage in that an eighty two year old rode with him who also made the distance in under 14 hours.

There is nothing new in cycling long distances. At the turn of the century the French newspaper proprietors vied with each other to organise long distance races with the attendant publicity and sales. The 600 km Bordeaux-Paris, which was intended as a two day stage race fell to the Englishman G.P. Mills, who shocked the French and the world by riding through the night and finishing in one stage. If 600 km in one go was possible, why not 1200? And so the Paris-Brest-Paris was born. In 1931 the P-B-P was won by Sir Hubert Opperman, the patron of Audax, in what is universally considered by cycling judges the world over to be one of the greatest and boldest rides in history.

The demands of the P-B-P however proved to be too great for the professional cyclists of Europe whose eyes were on the more glamorous Tour de France with its daily stages. In any case a great number of amateurs rode alongside the professionals in the P-B-P just for the fun of it, and to earn the still coveted title of "ancien du P-B-P". This was not organized at all and so the Audax Club Parisien set about to bring some order to the chaos by forming the "The P-B-P Randonneurs".

Now entirely an amateur, touring Audax event, the quadrennial P-B-P is the focus of Audax calendars world wide and the dream of many European cyclists, for where the Tour de France is "King", the P-B-P is the acknowledged "Queen" of events.

What of some of the other rules? They are mostly self explanatory and self evident. Riders of any age or sex may enter and any sort of bike may be used as long as it is propelled solely by muscular effort. Of some contention though, is the requirement for full length mudguards and what is simply called 'effective' lighting. Mudguards are required because 'what else would a tourist use?' and principally for the comfort of others on the ride. When the shortest ride could be as long as 14 hours and obviously the longer rides involve some night riding, the need for lights is quite apparent. I think the word 'effective' is included because in the country the need to see, outweighs the need to be seen, the essential thing in the city.

Actually, if you don't want the Brevet award but just want to ride, then as long as your bike is safe and roadworthy, who cares if you don't have mud-guards or do have some sponsorship logos on your jersey. What matters of course is how the rules are applied and how this translates into a tour, or 'randonnee', if you will pardon the French. Thus the basis of the system is the four standard qualifying Brevets and the times allocated for them. The table below shows these:

Distance	Min. Time	Max. Time
200 kms	6hrs 40mins	14hrs
300 kms	10hrs	20hrs
400 kms	13hrs 20mins	27 hrs
600 kms	20hrs	40hrs

The award of Brevets is very simple. Route cards are obtained from the Audax Club of Australia and, when completed after the ride they are returned to the Secretary who obtains the Brevet numbers and stickers from France. These are then returned with a certificate to the riders for a cost of \$2.00. An additional \$3.00 buys a very impressive and unique enamelled medallion to worthily mark the occasion.

There is always the challenge to do 'something more, something better'. After succeeding in a 200 km, there is a 300 km, then the others. Anyone

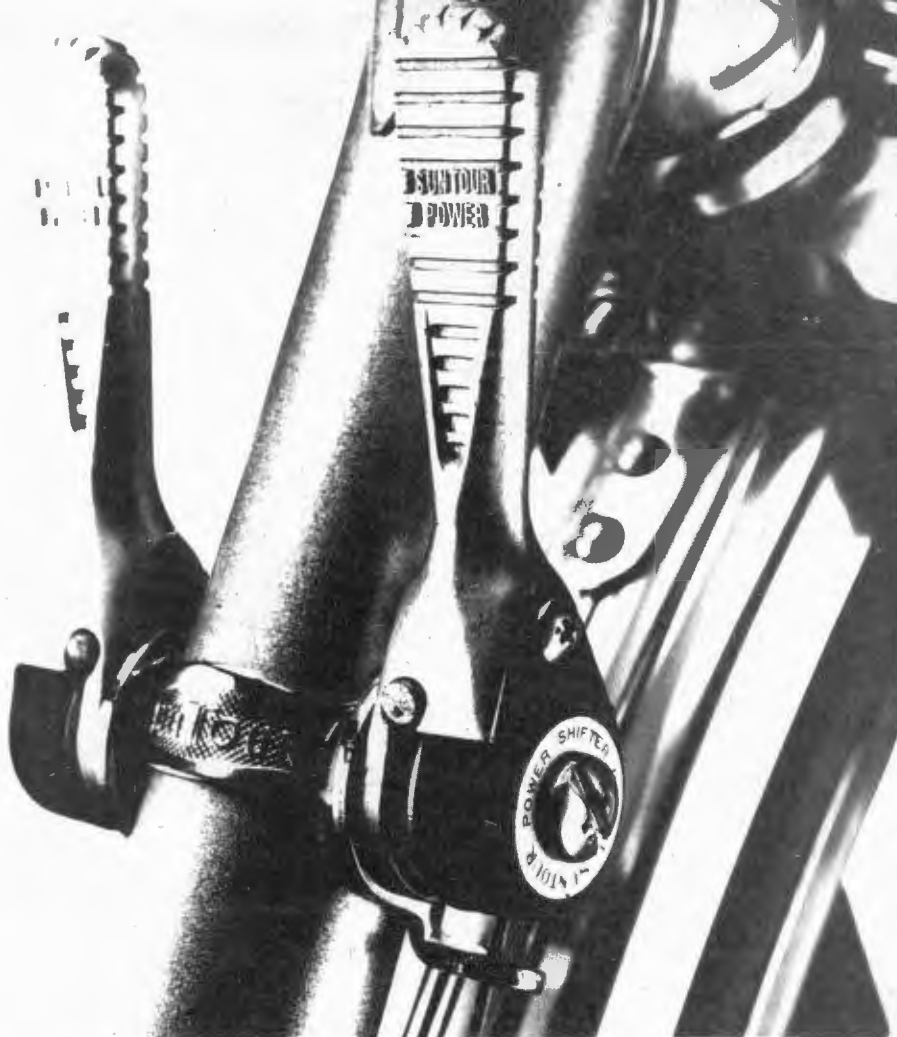
who completes the four distances in one year is termed a 'super-randonneur' and is eligible then to enter the Paris-Brest-Paris. This continual challenge is the essence of Audax. It is the personal achievement aspect which makes Audax a sport more than a recreation and since everyone who finishes is a winner, it is no wonder that Audax has lasted so long.

There is an Audax Club of Australia and it is one of the very few cycling clubs in Australia which pay no heed to State boundaries. Although new on the scene here, a large number of rides have been conducted during the last two and a half years. Overall more than sixty successful attempts have been made at Brevet rides although it is only in the last few months that the Club has gone to the extent of formally obtaining Brevets from the Audax Club Parisien.

Membership of the Audax Club is not essential, it just makes things slightly cheaper. Any club, or individual for that matter, can organise an Audax ride. All that is needed is the boldness to do so. It should be remembered though, that Audax rides ought to be made as easy as possible. The time and distances are the test, not the route, and anyway, there are enough overly demanding rides around without adding to them. Actually the legendary 'Oppy' assures me that riding in Australia is about thirty percent harder because in Australia there are so many open windswept miles of nothing much at all in direct contrast to Europe where everything is so close. Similarly the controls or check points should be places where rest and refreshment can be obtained. Some of the bigger European rides are described as 'going from one party to another'.

The first Audax style ride, and I have to say style because I had never even heard of Audax then, that I ever attempted, was the NSW Green Valley Twin Century. I had seen the ride listed in the calendar of the Bicycle Institute of NSW and spent three months training around Centennial Park morning and night. Even then the ride itself was twice as far as I knew I could go. I made it, and in spite of appalling weather I made it in under nine hours. Russell Moore, the Audax President gave me a brochure and then I was hooked. I don't know exactly what on; a sense of athletic achievement rather than sight seeing; the knowledge that the Brevet award is the recognition of my effort; the help and comradeship that you give and receive in turn; I don't know which, all I do know is that my imagination, just like those Parisians in 1904, has been captured. And so Audax is asking, just how bold are you?

Enquiries regarding conducting rides or club membership should be directed to the Secretary, 2 Murumba St, GREENSBOROUGH, VIC. 3088. Telephone: 435 4437.



BICYCLE GEARING EXPLAINED

All About Gear Changers

by Warren Salomon

If the derailleur mechanism performs the actual gear changing operation then it is the shifting mechanism which provides the rider with the means to control this operation.

In this part of our continuing series on bicycle gearing we look at the different ways of controlling the gear changing operation. This is usually accomplished by means of steel cables and control levers.

The Multiple-speed chain-operating gears fitted to most contemporary bicycles use a cable fitted to a lever to physically shift the gear change mechanism. In the case of a rear derailleur this cable has to turn a few corners before reaching the shifting lever. There are two methods used to help the cable change direction, these are the frame-mounting (often brazed on) cable guide and the 'flexible-outer' cable guide.

The frame-mounting type is more preferable as the contact area is reduced and hence operating friction is minimal. Usually the more expensive bicycles will have these fitted to the bottom bracket for both the front and rear derailleur cables. The illustrations show the most commonly used control levers and their cable routing systems. Bottom bracket frame-mounted cable guides (bottom or braze-on) are common to all types.

The object of good control lever systems is to increase responsiveness by reducing the operating friction.

Outer cable is needed where flexible routing is necessary such as when levers are mounted on the handle bars. The control cable leading to them has to turn with the front wheel.

Mounting positions for gear control levers fall into two broad types: frame mounting and handlebar mounting.

The down tube frame mounting type offers the least friction of all types as it uses less cable and less flexible joints. There are broadly three handle-bar mounting types: stem, bar-end and thumb shifters. Stem shifters mount towards the centre of the bars above the top tube on the handlebar stem. Of all levers they offer the biggest operating problems and are the most dangerous to use. Stem-mount levers are difficult and dangerous to operate for a number of reasons. Firstly they require the rider to shift one hand from a stabilising position on the bars to a destabilising position. The action of pulling the gear lever down is often transmitted

into the front wheel affecting the bike's steering. These levers seldom stay securely fixed to the stem and often twist when the lever is being operated.

The safest operating hand position for this type of lever position is, with both hands on the inside of the handlebars operating the levers with the thumbs. This type of lever is usually so stiff that sore thumbs is a possible result of continual shifting.

If you are purchasing a new bicycle in the future and are shown machines fitted with stem-mount levers tell the sales person to forget it and ask if any of the other three types of levers can be fitted instead.

Until recently the most popular type of lever mounting position with regular long term cycle users other than down-tube mount was bar-end. Bicycle tourers in particular liked these levers because they offered better control of bike direction and gear changing at the same time.

The bar-end position allows the rider to change gears without taking one's hands off the handle bars.

As the most popular riding position for drop type handlebars is the top-of-the-bar-position a rider will still have to move hands to the drop position to change gears. In hilly country it is common to ride in this position for lengthy periods if frequent gear changing is required.

There are many disadvantages to the bar-end system. As with the stem shifter the bar-end uses extra cable and a large loop of flexible outer cable to guide the inner cable to the lever. This long loop produces a lot of friction and makes for stiff use. Added to this is its exposed mounting location. The bar-end lever is easy to accidentally knock out of gear when the bike is parked.

Possibly the biggest disadvantage of the bar-end control is the fact that it is in a lesser used riding position. Cycling for long periods in the fully dropped position can be tedious except in the case of a head wind.

With the advent of the bushbike/-mountain bike, top-mount thumb shifter levers have become increasingly popular. Previously these were fitted to bicycles with flat and swept back type handlebars. These handlebar types offer less hand-rest positions and as both gear and brake control operations need to be located close to normal riding hand position, the thumb shifter was developed.

The thumb shifter is operated by the strongest part of the human hand, and generally the entire gear operation need only involve thumb and index finger. For the first time this allows simultaneous front and rear gear and brake operation, which in stop start city conditions is so essential.

These newer lever types are a hybrid design offering the best operating mechanism of both stem lever and bar end types. The main disadvantage of the thumb shifter type is that like other bar mounting types it requires extra cable and the flexible outer cable routing.

Lever mechanism types

The cage spring on the derailleur provides the tension to enable the derailleur to return to the top gear position. Having selected a gear, the lever must stay in the selected position and resist the spring's action. Mostly this is achieved by a simple screw-in friction plate mechanism which allows the lever to be moved by a hand force greater than the tension of the spring.

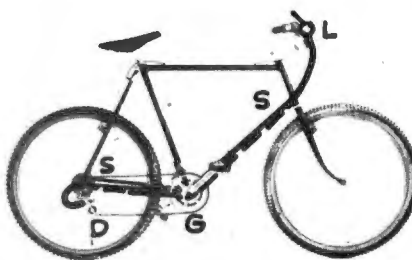
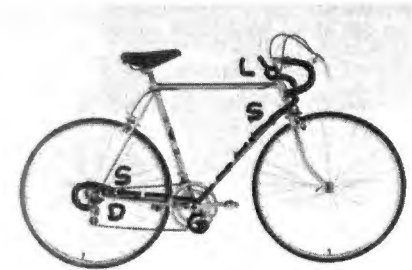
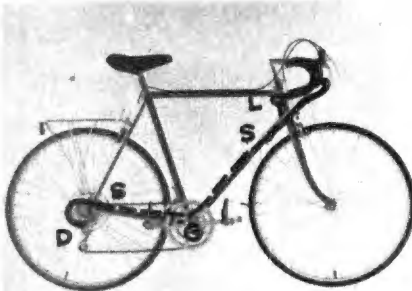
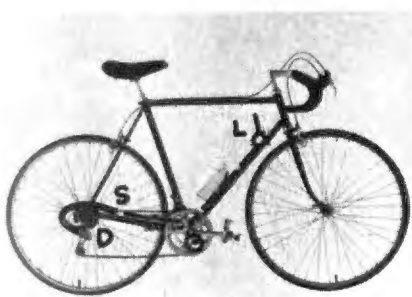
Other types of levers use a ratchet device which has a modified form of friction plate which has a notched cog to hold the lever in position.

The other common lever mechanism is the spring loaded type. This has a spring within the lever which acts in the opposite direction to the derailleur spring. Provided both springs are equal only minimum friction is needed to fix the lever in the selected gear position.

'Click' or fixed position levers are only used with special matching derailleur gears because of the adjustment problems and the need to over shift.

Rear Gear lever operation and overshifting

On a standard ten-speed bicycle with



The different cable routing methods used for each type of control lever. Top to bottom: Down-tube, Bar-end, Stem-mount, Thumb-shift. Guide to symbols used: S Outer cable stop, G Cable guide, D Derailleur. Broken line represents gear inner cable only. Heavy unbroken line represents gear cable with outer cable. Below: The SunTour 'Top-mount' down tube shift lever and the Shimano Deore with Centron mechanism.



double front chainwheels and five-speed rear sprocket cluster the chain can be guided by the derailleurs in any of ten possible positions. The chain therefore is a very flexible component in the gear changing operation. There is always bend and flex even in brand new chains. Often the movement of the lever, and hence the rear derailleur, is insufficient to guide the chain onto the next cog. A loud clattering sound is the result. (If you are in traffic you probably won't hear it.) At this point the derailleur may be aligned with the next cog but the flex in the chain will not allow it to move over.

In order to overcome this problem it is necessary to use a common technique called over shift. Most cyclists learn to do this without realising they are actually doing it.

To select a rear gear it is necessary to pull (or push) the lever a fraction further, so that the derailleur moves on from the correct selected position and drags the chain onto the correct cog. A backward compensating lever movement is then needed to complete the over shift so that the derailleur is correctly aligned for noiseless running.

The Shimano Centron mechanism is a positive attempt to overcome this problem by building a pre-determined amount of play into both lever and rear derailleur.

With this action only one lever movement is needed and it is roughly the same as the normal overshift operation. Once the chain has meshed into the cog the derailleur is pulled back into its correct running position by the action of the chain and the derailleur spring. This play in the lever and derailleur linkage mechanism means that overshifting is done automatically.

Front Gear Operation and readjustment

On front derailleurs the problems of reposition and shift manipulation are caused by two factors: cage width and derailleur design.

When the chain is moved across the rear sprockets from one side to another it changes the angle at which it passes through the front derailleur cage. With most types of front derailleurs, if more than two consecutive gears are selected on the rear cluster the chain moves sufficiently in the front derailleur cage to rub loudly.

Some readjustment of the front derailleur position will be necessary to ensure smooth silent running. The SunTour Top-Mount lever avoids this readjustment problem by building a special linkage into the dual lever housing which automatically readjusts the front derailleur lever position when the rear gears are changed.

The Centron system does not have a front derailleur adjustment linkage built into its special levers and the SunTour Top-Mount lever does not

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include a Centron device, so unfortunately the two systems cannot be easily combined.

Future possibilities

The shifting lever is the point where human control enters the gear changing system. It is vital to develop shifting mechanisms which make bike riding easier, not more complicated.

At present, derailleur geared bikes are more complicated by far to operate than say an automatic motor vehicle, yet they are mechanically less complex.

The motor bike even has a simple linear gear-shift arrangement. Only the bicycle is non-linear and complicated.

There have been a few attempts to rectify this problem and many of these do work. Their biggest disadvantage is their limited gear range.

In order to propel oneself and luggage over varied terrain (especially along hilly roads) very low gears are needed along with the normal high flat-country gears.

Three and four-speed hub gears are simply not enough. Five speed chain type gear systems like the Shimano Positron are a bit better but none matches the ten and fifteen-speed bike's gearing superiority over hilly roads.

Derailleur type gear systems are doomed to obsolescence one day as they are an obstacle to simple and effective control.

A loaded bicycle is no different on the hills than a loaded truck. In some cases both types of vehicle have a similar number of usable gears. The imperfect nature of the present lever controlled derailleur gears is obvious by the way the cyclists guess and 'feel' which gear they are in while truckers know and can see which gear they are selecting.

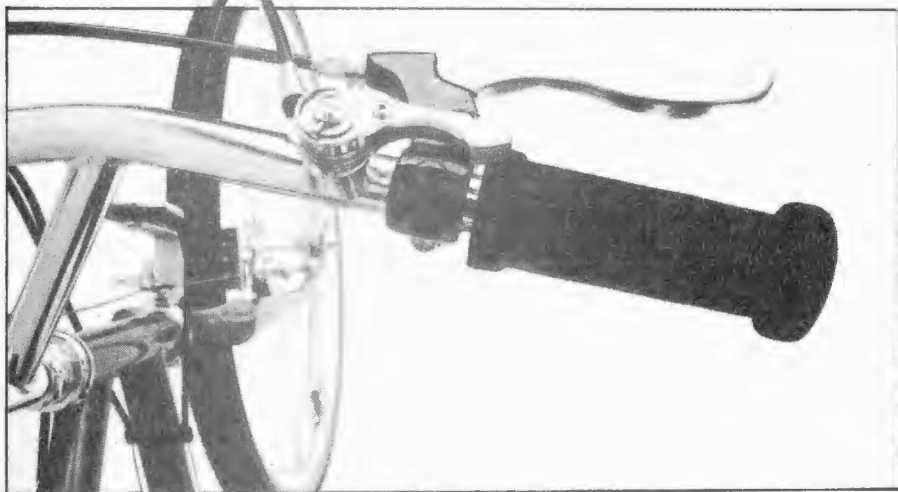
Even the motorcyclist has better control.

New hope is offered by the recently announced Deal drive mechanism. This is a type of stepped automatic transmission which is activated by foot pressure, not by hand movements. Bicycle part makers should be rushing off to the UK with licensing contracts to develop and manufacture this mechanism for mass production.

Not only would it revolutionise the present day bicycle but it would make cycling much more attractive to many more people who at present find bicycles an unnecessarily complicated device to operate.

Not only would the new device make cycling a less complicated act but it would relegate the gearing control to the feet.

Cycling safety will improve from being able to devote hands to the braking functions only. Road racing efficiency will be improved by allowing the legs to devote their energy to a sole purpose unimpeded by decisions made by other parts of the human body. (The classic example of this



Above: The new thumb-shifter type control levers offer the most convenient mounting position of all lever types. The SunTour Microlite type seen here has adjustable lever stop positions for rider comfort. Right: An experiment by the author. SunTour shifters have been mounted on drop-style bars on the inside of the brake levers. Mounting bands have been modified for the larger alloy bars. The result is excellent control of the bike especially in traffic conditions.



situation is the 'terminal leg-spin'. This occurs when the hand, with brain in neutral, selects bottom gear while speeding down hill. As a high gear is required, the legs spin out and go to jelly making the inevitable up hill much harder to pedal.

Old hands will defend derailleur gears to the end. And that end will come when they sit on a machine where they only have to pedal to

change gears instead of having to fiddle with hand controls.

Having stated some fundamental weaknesses of derailleur gearing, this series will continue with sections detailing gear ratios, and gearing set-ups and combinations. Up until this point it has been reasonably simple. From now on the more complicated theory of derailleur gearing becomes apparent.

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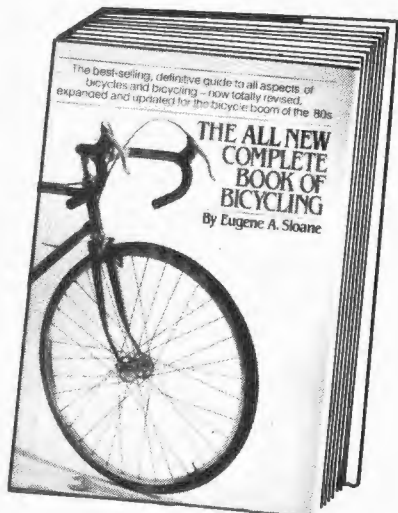
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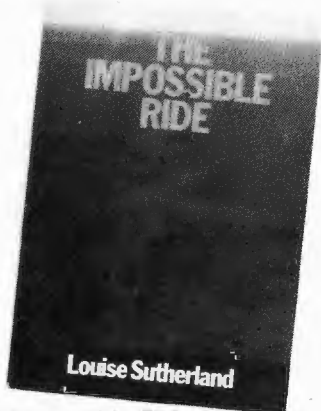
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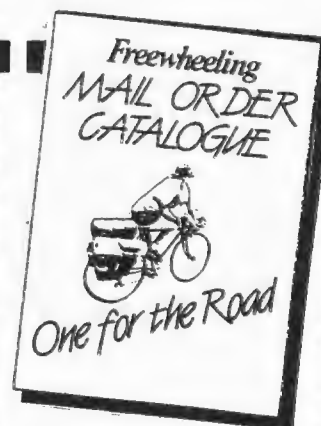
Catalogue deletions and additions.

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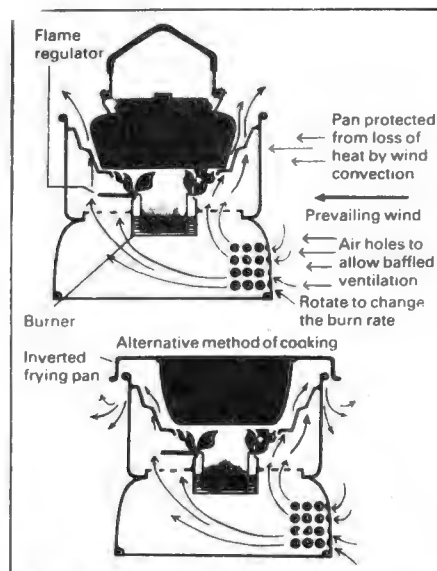
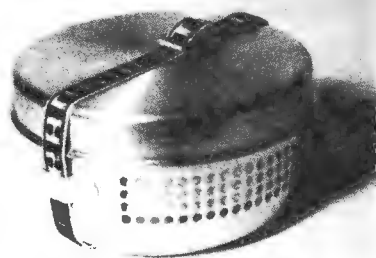
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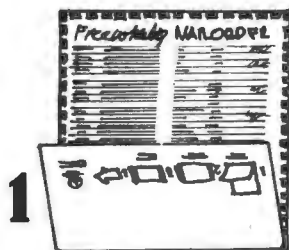


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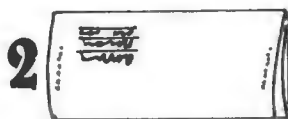
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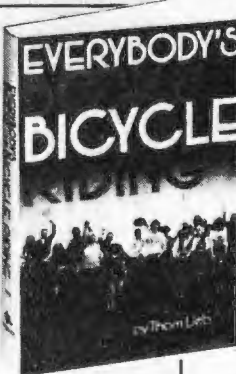
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One for the Road



Pedal for Heart Steering Committee chairman John Ridge with ride participant NSW Health Minister Laurie Brereton.

Pedal for Heart a winner with a new format.

The National Heart Foundation's Sydney cyclethon took on a new form this year as it took to the streets over a 30 km course in Sydney's eastern suburbs.

The ride entitled *Pedal for Heart* centered its activities on popular Centennial Park and attracted approximately 2000 riders who completed all or part of the course to La Perouse and back.

The organisers expected some disruption in attendance due to the relocation of the event from the venue of previous years at Warwick Farm, but were generally pleased with the attendance. *Pedal for Heart* attracted many novelty riders including a troupe of brightly dressed clowns and the Hearts, a family of three dressed as king, queen and jack.

The ride will be run again next year over the same course and a bigger roll up is assured as *Pedal for Heart* establishes itself at its new venue.

RTCA proposes a bicycle mechanics qualification

At the Bike of the Year Awards held recently in Melbourne the council of the Retail Cycle Traders Association released details of its proposal for a Bicycle Technicians qualification.

The RCTA envisions a three tiered approach — the senior level being the Senior Grade Technician. This qualification would require



Riders cross the start line in Grand Drive, Centennial Park at the start of the 30k Pedal for Heart course to La Perouse and back. The ride

took place in sunny weather and attracted good crowds.

mechanics to complete 4 years work experience in the industry in the retail sector as well as undertaking any formal training programmes laid down by the testing authority.

The board of the RCTA plans to administer the scheme by setting up a testing procedure and training course.

RCTA spokesperson Keith Long said that the qualification was designed to achieve similar results to an existing qualification within the automotive industry.

A candidate for the qualification would progress through the three levels starting as a Trainee Technician for 2 years before graduating to Intermediate Grade Technician on the way to the senior level. Duties and responsibilities would include undertaking the repair work normally part of a bicycle retail business, supervising the work of junior technicians, maintaining good relations with customers, performing work to a high technical standard, attending required tech courses and classes and studying and complying with all safety standards and requirements.

It is expected that the newly formed Bicycle Industries and Traders Association which has similar objectives in the training and technical area, will maintain close liaison with RTCA on this important project.

Repco wins first ever dealer Bike of the Year Award

The newly released Repco mountain bike has won the first annual award given by the Retail Cycle Traders

Australia. The announcement was made at a special reception organized by the RCTA recently in Melbourne.

Australia's major manufacturers and importers of bicycles submitted machines in nine categories and the judging was carried out by the group of participating specialist bicycle dealers and the RCTA council.

The award night was the first of its kind run in Australia for many many years and the enthusiastic response generated by the evening has ensured that future annual award nights will become major events in the national cycling scene.

Winners of each category were: Children's bikes, Malvern Star Mini Star; 16 inch wheel BMX, Repco Hotfoot; Family bicycle, Craecross 3-speed; Multi-speed Diamond frame

Repco general manager Graeme West and Victorian manager Frank Nachtigal with their Bike of the Year.



One for the Road

under \$300, Ramondo Gents 10-speed; Multi-speed mixte frame under \$300, Ramondo Ladies 10-speed; 20 inch wheel BMX, Repco Hotfoot; Mountain Bike, Repco Mountain Bike; Specialty (urban utility bike), Roadmaster City Hopper; Bicycle of the Year, Repco Mountain Bike.

RCTA Secretary Bill Long said that the Bike of the Year had been four years in the planning and was now assured of a successful future. Awards were presented by RCTA President Ken Emery who said that such evenings were good for the industry

because it created a quest for higher standards.

Bicycles displayed during the evening all exhibited a good quality of manufacture but obviously to win the prestigious award next year there will be a continual raising of standards.

Penny Farthing Madness

At Evandale, northern Tasmania, in March of this year, an event was held that promises to become an annual attraction — the All Australian Penny Farthing Championships were staged.

The organisers set up sponsors to assist with passage of machines and riders, and teams from South Australia, Victoria and Tasmania arrived. Riders from New South Wales unfortunately pulled out at the last minute.

Far from being the gentle and rather quiet outing anticipated, the South Australians, by the sheer skill and enthusiasm turned it into an aggressive race day. Everybody got caught up in the furious feeling including myself who was awarded the trophy for 'fall of the day' as a result of losing control on a corner, ploughing into the crowd and taking a 'header' when my borrowed machine hit the gutter. Despite my injuries, I swore that I would be back next year to see the vintage bikes, the race and meet the old bike enthusiasts. Hope to see you in Evandale, Saturday 3rd and Sunday 4th March 1984.

Paul Farren

For further information contact:

Di Sullivan
Secretary
Evandale Village Fair
29 Murray Street
Evandale
Tasmania 7212

A good triple isn't as simple as one, two, three.

Tired of triple cranksets that look like an afterthought or just a pile of nuts and bolts? Take a look at Sugino's TAT and TGT triple cranksets, designed from the beginning to be just that, triples.

The Sugino TAT features a rigid, cold-forged one-piece alloy crank arm with a separate inner bolt circle on the spider. This versatile crankset will accommodate chainrings from 53 down to 24 teeth in almost any configuration. The main bolt circle is smaller to accept middle chainrings from 46 down to 34 teeth. The crank arms are available in five lengths from 170mm to 180mm to fit any riding style.

Whether it's triples for touring, tandems or all-terrain bikes, go with the ones built right from the start, go with Sugino.



The Sugino TGT triple crankset utilizes all the same design features as the popular TAT with gravity-cast alloy arms. TGT crank arms are available in four lengths from 165mm to 177.5mm.



Sugino's unique separate inner bolt circle is threaded into the spider and uses 24, 26 and 28 teeth chainrings. Larger inner chainrings, up to 34 teeth, mount on the main bolt circle.

Sugino



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Question

Can I buy a quality bicycle at a bargain price?

You can look at the new model Gemini now on display at Calypso Cycles in Newtown.

Great care has been taken at all stages from design through manufacture to assembly and tuning.

Look at these models!

Gemini Club

Finely made steel-alloy performance frame. Double butted tubes. Built to a racing spec. with Shimano 600 EX \$499.00.

Gemini Randonneur

Carefully designed and beautifully made steel-alloy touring frame. Double butted tubes. Built up as a versatile but light weight 15-speeder. CELC Model \$415.00. Q/R Model \$385.00.

Calypso Cycles



BITA President Ray Deane.



BITA Executive Officer Colin Mainwaring



BITA Public Relations and government liaison committee chairman, Henry Taft.



BITA announces progressive programme

The newly formed Bicycle Industries and Traders Association has announced its programme to revitalise and organise the bicycle industry.

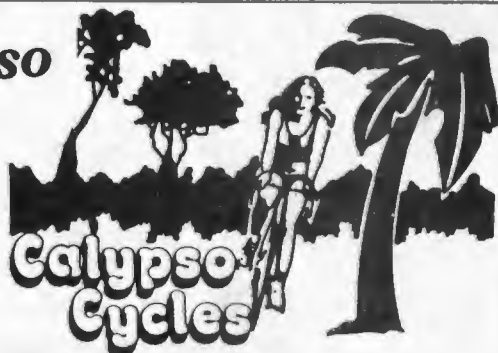
To achieve its stated aims of promoting bicycle ownership in a

positive environment, encouraging ethical and sound business practices and supporting and protecting the interests of the industry at large, BITA has established a system of sub-committees to carry out the work.

The committees and their respective chairmen are: Finance and International liaison, John Henshall

The new touring bike at Calypso

Gemini
Randonneur



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Features:

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- *Triple chainwheels for all types of country.*
- *Strong and versatile but still lightweight.*
- *Around \$100 under other similar cycles.*
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One for the Road

(Leisure Cycles of Australia Pty Ltd); Technical and Standards, Martin Hanley (Hanley Trading Pty Ltd); Public relations and government liaison, Henry Taft (Team (Aust) Pty Ltd) assisted by Ken Emery (President, Retail Cycle Traders Australia); Statistics and Tariffs, Graeme Stott (Graecross Pty Ltd).

The association aims to also encourage a greater professionalism in the industry in its general presenta-

tion to the public. The formation of association comes at a time when observers are regarding the bicycle industry as being in a very disorganised state.

Evidence of BITA's willingness to bring divergent sections of the bicycle field together towards a common goal is displayed by the positive involvement of the Retail Cycle Traders Australia.

The BITA secretariat is located

with the Victoria Chamber of Manufacturers and its executive officer is Trade and Tariff consultant Colin Mainwaring. The president is managing director of Stradimex Pty Ltd (Premier Bicycles) Ray Deane.

Membership of the association is invited and input would be welcomed from all of those organisations involved in the bicycle industry in Australia.

BITA can be contacted at: Industries House 370 St Kilda Road, Melbourne 3004.

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THE PATENTED DISAPPEARING HINGE
The Kryptonite® 4 lock design incorporates a hinge on one end of the shackle which can only be pulled out of the cross bar when unlocked. The Kryptonite® 4 is the only American made lock of this type to effectively lock on both ends of the shackle. . . . **THAT'S THE KRYPTONITE® DIFFERENCE**

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The "bent foot" on the shackle works like a disappearing hinge making the Kryptonite-4® easier to open and close than any other U-shaped locking system. The shackle seats perfectly each time . . . **THAT'S THE KRYPTONITE® DIFFERENCE**

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The Kryptonite-4® is the only completely vinyl coated bike lock in the world. There are not protrusions or sharp edges that might cause damage to painted or chromed surfaces, or puncture soft or hard luggage. The rich, thick black vinyl coating not only enhances its appearance, but also preserves the Kryptonite-4® by inhibiting corrosion and rust. . . . **THAT'S THE KRYPTONITE® DIFFERENCE**

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Since 1971 Kryptonite® Locks have been recognized as the "State of the Art" in two wheel vehicle security. Our very first Kryptonite Locks are still frequently seen on the streets of Cambridge and New York. The Kryptonite-4, our most recent design, is sold throughout the world. Cinelli of Italy has chosen the Kryptonite-4 to lock up its \$2,000 Bicycles, and Harley Davidson Motor Corporation has chosen the Kryptonite-4 to lock up its \$7,000 Motorcycles. We are proud to say, "The Kryptonite-4 is in the truest sense, the State of the Art". **KRYPTONITE® IS THE DIFFERENCE.**

CYCLISTS' ACCOMMODATION DIRECTORY

The Directory is a list of people who offer simple hospitality to touring cyclists. Anyone on the list can stay with anyone else on the list.

Cyclists who use the Directory are asked to write or call in advance. They are urged not to drop in unannounced.

To be included on the list, please send me your name, address, and phone number, with an indication of where you live, e.g., 7 k SE Melbourne GPO.

Please enclose a stamped, self-addressed 230 x 60 mm envelope for your copy of the Directory.

The Directory is printed and distributed privately, and a \$2 donation to defray costs would be appreciated. Send to:

Marjorie and John Barrett,
52 Alexandra Street,
East St Kilda Vic. 3183
Phone: 527 8030

10 SPEED TOUR HIRE

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Concern for Cycling Safety

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Wallsend,
N.S.W. 2287

Ph. (049) 52 4403

Overseas trips.

Normally the only thing touring and racing cyclists have in common is the fact that they both propel themselves by means of that two-wheeled device — the bicycle.

Now, a Melbourne journalist and veteran cyclist of more than forty years, Cecil Crips, has found a way of bringing both groups together: overseas group tours for tourers and veterans alike.

The term veteran applied to a racing cyclist usually means someone who is thirty five years and over!

Since 1974 Cec Cripps has organized six groups of riders to tour Europe, three to the USA and one to Hong Kong. These tours have catered for a total of well over 300 people including a large number of non-peddalling wives who take the journey to urge on their husbands and enjoy the sightseeing excursions undertaken in the group's own 48 seater coach.

European countries visited so far include Sweden, Denmark, Germany, Holland, France, England, Belgium, Austria, Switzerland and Italy.

The focus of the European tours is the cycling equivalent of the World Cup Series: the World Veteran Championships.

These are held in the beautiful Austrian town of St Johann in the

Tyrol where more than 300 cyclists from 30 nations gather to compete in a series of cycling events.

Altogether there are more than 22 championships staged for both men and women over distances ranging from 40 km to 134 km. Registered racing cyclists and touring cyclists are both catered for in separate events.

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Teflon coated 19 strand stainless steel braided wire.

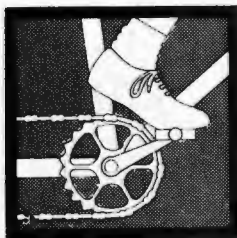
Teflon lined inner sheath.

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Over the years the tours have produced many good reasons for some participants to return. Among the more memorable events was the welcome on the 1975 tour by the wonderful Danish hosts who met the coach dressed in period costume and riding antique bicycles.

Next year Cecil Cripps will be leading another group on a grand European Tour. The participants will have the opportunity of competing in veterans events in Holland, Belgium and Austria. After that the group will do sightseeing tours in Germany, Leichenstein and Italy.

The whole trip including the Singapore and Bangkok stopovers is expected to take up to five and a half weeks.

A future tour is also planned by Cec Cripps to Japan. Interested persons should contact him at: 19 Stayner St, Chelsea Vic. Ph: (03) 773 1808.

Brisbane gets a bike plan

Bicycle riding residents of Brisbane, the state's largest city have received much needed assistance with the announcement by the Brisbane City Council of a new bicycle plan costing \$1.8 million.

Brisbane is unique in that it is administered by a single elected council whose budget is roughly equivalent to the state of Tasmania. The opportunities for implementing a Geelong

style bike plan in the Queensland capital are very good.

The plan itself allows for 42 bikeways covering over 100 km, some of which will have shared facilities. The BCC receives very little in direct funding from the State government but it is expected that some of the funding for the Brisbane Bike Plan will come from Federal job creation programmes.

Copies of the full bike plan are on sale from the BCC at \$20.

Touring Group Formed

The touring scene has come of age in the Sunshine State with the formation of the Brisbane Cycle Touring Association. The group's first president, Peter Brandis says that his association plans to conduct a regular touring rides programme, as well as hold informative and entertaining club nights.

The BCTA has already produced its first newsletter which includes a rides programme up until late summer. Members of the group have been co-operating with Australian Cycle Trails to undertake route research on the proposed Capricornian Cycle Trail between Rockhampton and Brisbane/Ipswich.

The group's next meeting will be held on Monday evening the 5th December, where the guest, *Freewheeling* publisher Warren Salomon,

will give a visual presentation on cycle touring and the cycle trails concept (see item elsewhere in the issue.)

Cheers — the M.B.T.C. Anniversary

Well known for its social and cycling activities, the Melbourne Bicycle Touring Club celebrated ten great years of existence on Sunday the 25th September with a culinary extravaganza. Sixty four people sat down to a delicious Yum Cha at the Beijing Palace restaurant, Toorak Road. Slides of early rides were shown to some people's embarrassment and Keith Dunstan the well known journalist and one time member of the club, convinced us of the joys of cycling and belonging to a club as welcoming and active as this one.

The morning started from the city square with a 35 km ride around Port Melbourne to St Kilda and out along the pier for photos. More photos were taken in front of the restaurant when all the non cycling attenders joined the group. A special enamelled badge was designed and produced for the occasion which sold out immediately and has now passed into the realms of being a collector's item — the six crates of champagne disappeared with equal speed, and a great day was had by all. Here's to the next ten years.

Paul Farren

Western Achievement

Perth 7.20am on 14th August: One of the coldest August days on record and 21 riders mounted their bikes at Guildford to try out the new course for the 200km achievement ride. With a tailwind, good time was made to the first stop at Bullsbrook. From there the course was through the scenic Chittering valley to Bindoon and it was along here that the group split up. The support vehicle had gone ahead to the top of Bindoon hill, and a very welcome hot drink was available to those who stopped. Turning towards Toodyay many riders found this section trying and, cheered the sign which read 'Toodyay 12km'. After the Toodyay stop we turned for home and the diminishing mile-post readings lent new energy to our tired legs. A terrific sight for riders was the 'Steep Descent' sign at the top of Red Hill; they pounded down and seemed to roll into Guildford to the finish.

Congratulations go to the 17 riders who finished, especially Fiona who completed the course in 9 hours 4 minutes — 5 minutes ahead of anyone else, and also to Rene, the most senior rider to compete. Held mainly on



Bicycle touring heavy-weight, Wayne Smith formerly of Nelson New Zealand was caught by a reader's camera as he travelled through the Blue Mountains area. Wayne's load weighed in at 90kg. and is his home on wheels while he searches for a place to settle in Australia. Photo: Ron Knight.

quiet scenic roads, it was an excellent course. If you had asked me 6 months ago to ride 200km I would have refused, and so for me it was a real achievement ride.

Cycle Touring Association of W.A. Newsletter.
Aileen Martin.

New Folder Design

Folding bicycles are usually something of a compromise: most that are easy to fold don't pack down to a small size. Why? Because most fold at a single hinge. Now, however, a bicycle called the Brompton allows you to collapse your means of transport into a package only 500 x 500 x 250mm — not much bigger than its 400mm wheels.



The Brompton's swinging-arm rear suspension means you can fold its rear wheel underneath it, so that it can be parked on its luggage rack. To fold completely, you just unlock and fold back the front and handlebars and push the seat down (to save space, the left-side pedal then folds down). The chain is enclosed, so you don't get oil on your carpets or clothing, and to help there are even two castors fitted to help you move the bike around.

Enforcement trial in Newcastle

As part of the Newcastle Area Bikeplan, Constable First Class Tony Tamplin has been appointed full-time to the Police Bicycle Enforcement Trial for the Hunter Region which commenced late July.

The Newcastle Area Bikeplan which is a pilot scheme for improving the safety of cyclists in N.S.W. was officially launched by the Minister for Transport Mr. Peter Fox on Wednesday June 8, 1983. The Bikeplan encompasses the modern 4E's (Engineering, Education, Enforcement and Encouragement) approach to bicycle planning which recognises that improved safety requires both an improvement in the physical cycling environment and most importantly a modification of riding behaviour.

The Police Enforcement Trial will reinforce road safety education through the effective enforcement of traffic laws. The program will also involve action against aggressive motorist behaviour towards cyclists. It should be stressed that the program will be educative rather than punitive with an emphasis on the more serious and highly dangerous breaches of the laws. These are:

- riding at night without lights

- riding the wrong way against traffic
- disregarding traffic signals
- turning at intersections
- footpath riding in shopping centres
- other dangerous riding practices such as ride-outs from driveways
- motorists' attitudes to bicyclists

Special procedures will be introduced to aid police in their bicycle enforcement duties, this will involve issuing a cautionary Bicycle Offence Report to the cyclist and sending

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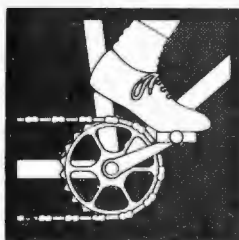

- fits on any bicycle,
wheelsize 45-77 cm
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no batteries needed
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details to parents via a Parental Notification Report. In this way the erring cyclist will receive instruction from Police on the spot and hopefully the educative message will be reinforced by parents at home.

The Newcastle Cycleways Movement, the local advocate group, says it strongly supports the introduction of the Police Enforcement Trial. They have been urging such programmes for a number of years.

Education — NSW Up, Victoria Down

A successful bicycle safety program known as the Bike Ed Kit developed for use in Victorian Schools for 9 to 12 year olds is being downgraded in that state whereas the NSW version of the same programme is being implemented and upgraded in NSW.

In NSW the Bike Ed Kit is to be given an extensive implementation in the Newcastle region as part of the Newcastle Area Bikeplan.

The Bicycle Institute of Victoria is concerned that the Bike Ed Kit will be

allowed to wither and die in its home state as there are no plans for its funding after 1983. There are also no plans to improve the content of the kit by incorporating the suggestions of the teachers who have used it.

In all instances of its use it has been judged by the local community to be a huge success but in-service training programmes for new teachers have become downgraded from two day to one day courses.

In Victoria now there are Bike Ed trained teachers on staff in 770 technical, high, primary and private schools. The BIV feels that the programme should be part of the general curriculum as it is in Scandinavian countries.

Melbourne Survey Complete

Melbourne Bike Plan, Stage Three, has been completed bringing to an end a five year, three-stage project by the State Bicycle Committee.

The metropolitan area of Melbourne has been surveyed for cyclists. Stage Three plans included recommendations for on-road im-

provements as well as off-road bike paths.

Consultation with local government and relevant State Departments has been vital in this planning venture.

Municipalities will continue to be the focus for cycling improvements and will be encouraged to develop works using the framework provided in Bike Plan Stage Three.

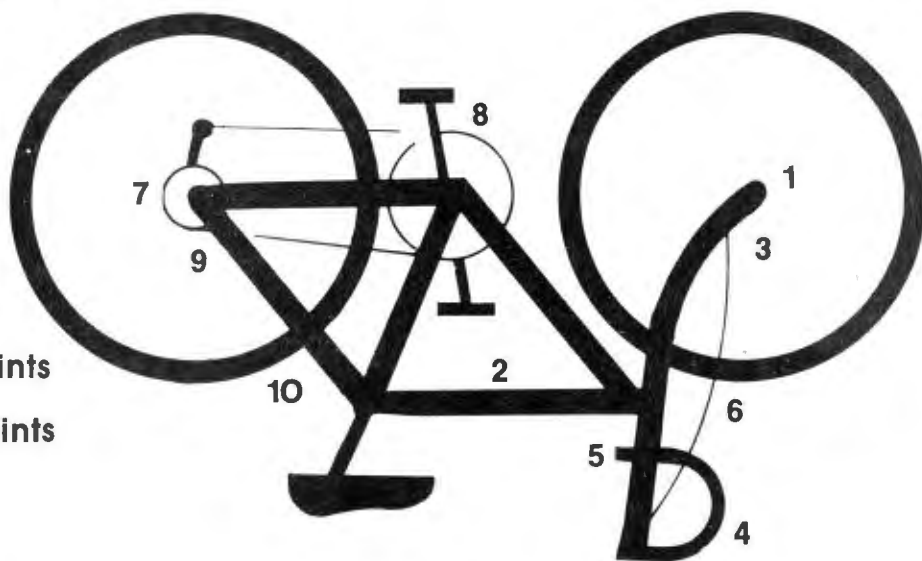
Warwick Pattinson, chairman of the Melbourne Bike Plan Steering Committee, says: 'We are happy with the way this final section has been tackled, but the major benefits to the cycling public will result from initiatives taken at local government level.'

As in the other stages, all bicycle routes were surveyed by experienced cyclists.

The consultant, G.H.D. Transportation Consultants Pty. Ltd., believe that "backsides" must be used along with the "books" when gathering vital data for cyclists. Their report on Stage Three will be made available shortly together with Bicycle Route Maps.

Brand New Bike Aid^{T.M.} 10 point lubrication plan

1. Front and rear quick release nuts
2. Derailleur cables
3. Front brake pivot points
4. Brake lever pivot points
5. Ratchet shifter controls
6. Brake cables
7. Rear Derailleur pivot points
8. Front Derailleur pivot points
9. Drive chain
10. Rear brake pivot points



Cycleway to be provided on century-old bridge at Nowra

The existing timber footway on the century-old bridge over the Shoalhaven River at Nowra is to be replaced by a two metres wide concrete cycleway.

The Minister for Main Roads Mr Jackson, said that a contract for almost \$80,000 had been let for the supply of supporting structural steelwork to Boweld Constructions Pty. Ltd. of Bomaderry. This steelwork is required to support the concrete deck of the cycleway, explained the Minister.

He continued, 'the cycleway will be constructed in conjunction with the repainting of the old bridge.'

He continued, 'the 342m long bridge consists of eight wrought iron truss spans and one iron girder approach span. The total area of ironwork to be repainted is just over 19,000 metres.'

He added that the cycleway should be completed and ready for use when the repainting is finished.

Mr Jackson explained that the old bridge at Nowra was built by an American firm, the Edgemoor Iron Company of Delaware and, when opened in

August 1881, was the longest bridge then built for the New South Wales Department of Public Works. 'It is interesting to

note that one of its truss spans was erected and displayed in Sydney as part of the 1879 International Exhibition', he said.

Photo courtesy DMR.



for smoother, faster, biking



Any bike owner will be glad to have Dri-Slide Bike-Aid around. Bike-Aid will make any moving part on a bike work freer and easier. And without the sticky, dust-collecting mess of an oil application.

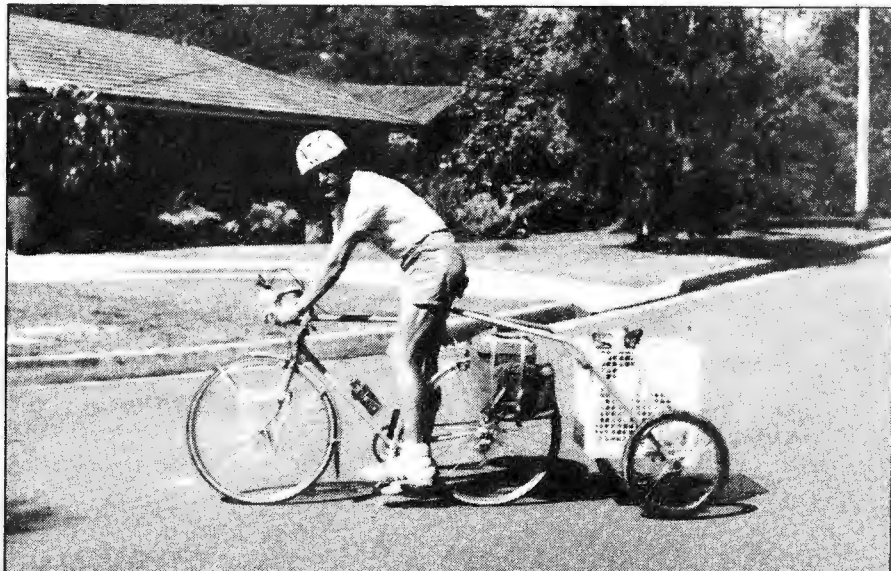
Use Bike-Aid on front and rear quick release nuts, Derailleur cables, front brake pivot points, brake lever pivot points, ratchet shifter controls, brake cables, rear Derailleur pivot points, front Derailleur pivot points, drive chain, and

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One for the Road



Geoff Terry wanted to show Kati the world. He settled for Australia's eastern coast. Geoff and Kati (right, smiling) are presently spinning all four wheels ever northward, largely using the Pacific Cycle Trail. They left Sydney in March. If this be Spring, can Kati be far behind?

Bike-it Couriers

Although Sydney's Bicycle Brigade (see *Freewheeling* No. 7) in its original form is nought but a smoggy memory (they are now part of a large courier firm), its Perth counterpart, Bike-it-Couriers, is alive and well and flexing its spokes.

Born 2½ years ago to enthusiastic parents, Bike-it has built an impressive business turnover, averaging 450 jobs each week, that supports 8-9 full-time positions at present.

The winged messengers have recently turned a new corner and instigated a complete worker co-operative. And they are looking for more cyclists.

Barry Newell is one of the prime movers. He says that the organisation has run efficiently and grown steadily. 'However, we feel it would operate more effectively as a co-operative, whose members share the jobs, whether it be courier, radio operator, accounts or whatever.'

Barry believes high work satisfaction and lower burn-out rate will be the results. He feels the job is not for the faint of calf.

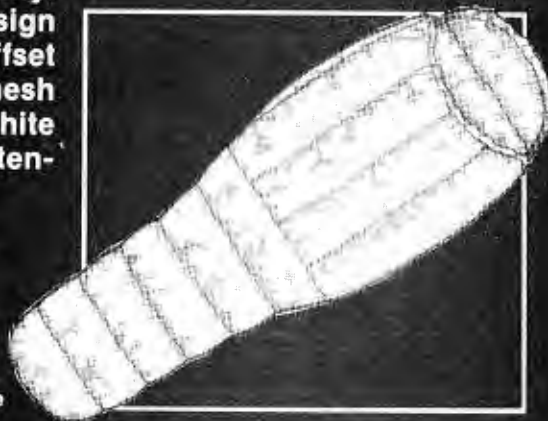
Sleeping Light Rockledge by J & H

This is J & H's ultralight superdown sleeping bag, ideal for those to whom warmth-for-weight is of prime importance. Rockledge is light but roomy, with a Mummy/Tulip shape for efficiency and full side zip for flexibility. Rockledge incorporates J & H unique design features such as vertical chest baffles, offset draught tube with 'zipglide' strip and stretch mesh baffles. The bag contains one pound of pure white superdown within a shell of hardwearing 'tenacious' cloth.

J & H ROCKLEDGE
NEW HIGHS IN DESIGN — NEW LOW IN WEIGHT

ORDER FOR \$238
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Packed size: 6" x 12"
Weight: 2lb 7oz
Fits people to 6' 2"
Extra-long model available
Temperature rating: -5°
Burgundy outer. Grey inner.



'Although we have had few accidents there are always risks. A courier might have to carry out several assignments at once in optimum time and in dense traffic. For those willing to make the commitment there is certainly some sense of freedom.'

Bike-it operates within a 4 km radius of Perth city. They pick up and deliver anything that doesn't require a fork-lift truck — documents, tapes, graphics etc. And they're earning a good reputation for outsailing the automobile. Those interested can contact Barry Newell on (09) 332 4288 or write in care of P.O. Box 219, West Perth, W.A. 6005.

Freeway frees road for cycling

The Hume Highway through Seymour (Vic) has been by-passed by a new section of freeway. The old Hume Highway at Seymour is now a quiet back road to Avenel via Mangalore. The CRB has commended work on the Hume Freeway extension to by-pass Benalla.

Neil Watt
Shepparton Vic.

Sprocketman Rides Again

After years of bureaucratic resistance to the publication of the educational comic book *Sprocketman* in Australia, the cycling super-hero has at last found a home in New Zealand.



Sprockie was introduced to the Urban Transport Committee of the Auckland Regional Authority by Dave Henderson the regional bike planner, and while some members doubted that he could find full employment in NZ the majority were in favour of helping him out.

The Ministry of Recreation and Sport and the Ministry of Energy also helped with funds., 5000 copies of his comic have been printed as a trial and already he has made it to TV.

Sprocket Man has an interesting history. Originally drawn by Louis Saekow for Urban Scientific and Educational Research Inc. it was designed for distribution to Stanford (US) University students.

Sprockie was taught to ride on the left side of the road by Alan Parker who engineered a small down under printing of the comic in 1978. Sprocket Man has since been run off the road by bureaucratic disinterest in Victoria and elsewhere because certain administrators are opposed to this kind of safety education. We hope that Sprockie thrives and continues to save lives in his new kiwi home.

Pour les Cyclotourists Flashlight tent by Sierra Designs

Flashlight is a roomy, sturdy, ultralight tent. Ideal shelter for the touring cyclist, it will protect you from the worst of weather. Flashlight offers comfortable accommodation for two people or absolute luxury for one.

The trapezoid frame tensioned aluminium pole is stronger than you'll ever need, the snug rainfly provides complete storm proofing. Flashlight is well ventilated through two screened windows. It pitches easily in under 90 seconds with only four pegs.

Workmanship is of the highest order, with double needle lap seams, taped hems and generous reinforcement at stress points. Flashlight has a lifetime warranty on material and construction defects.

Order for \$372

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Packed size: 4"x17"

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Total weight: 3lb 9oz

Wild Country

Elbow room: 59"

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Length: 96"

Dickson, A.C.T. 2602

Peak height: 44"

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Write On

Road test feedback

Returning from three months in Tasmania I picked up issue 18 of *Freewheeling* to see a test of the Apollo 18. I brought my Apollo 18 in September 1982, it seemed a good bike for touring and city riding. As the photographs show in the test the lowest gearing is 36t on the front and 28t on the back, to achieve 1:1 ration some changes were necessary. The smallest chainwheel the crankset accepts is a 34t, this was fitted with little fuss along with a 34 on the cluster, also 1 1/4" tyres were fitted instead of the usual 1 1/8".

Touring with the usual camping gear, as well as walking boots,

rucksack, and woolly clothes the bike handled very well, stability was remarkable with such a load, and the gearing allowed me to ride up everything. Over 4000km of touring often on gravel I had only one complaint, the chain, it did not match the standard of all other components, and couldn't take the 18 speed and heavy loads. After two quick hitches into Scottsdale (Tas) I bought a Uniglide chain, this has not given any trouble. After carrying a 1 kg kit the only other problem over the whole trip was less than 1 km from home in Canberra the rack broke, put the panniers into the wheel and broke two spokes, cluster side of course!

Overall I highly recommend the Apollo 18, with altered gearing as an inexpensive touring bike, which is 'zippy' enough for commuting in the city.

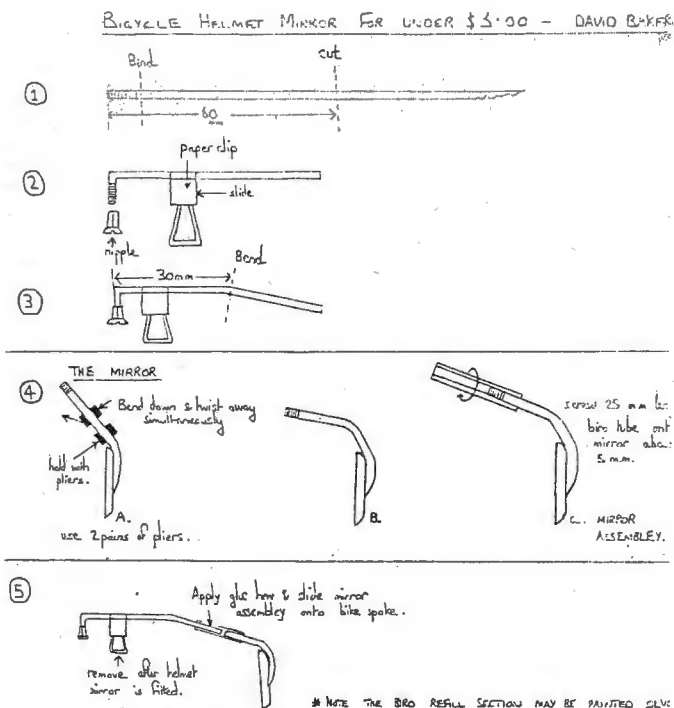
Guy Chester
Belconnen ACT

D.I.Y. Mirrors

I have recently been making some cyclists helmet mirrors for my local bike club (Knox Bicycle Touring Club). The mirrors are cheap and easy to make and give excellent visibility when correctly adjusted.

They can be made for under \$3.00 and require no special tools (just 2 pairs of pliers). In the interests of road safety and accident prevention I thought you may be interested in publishing the enclosed information on construction.

David Baker
Heathmont 3135



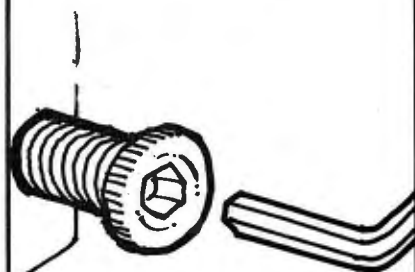
MATERIALS
UNI-CLAR SIZE 6 Dental mirror \$2-35 from Commonwealth Dental Supply
108 Collins St. Melbourne.

HINGED BULLDOG CLIP (SMALL) 18 cents from Norman Bros city stores.

OLD BICYCLE SPOKE (with ripple) or 20 cents (new).

ARALDITE (5min Drying type).
25 mm Length of Boro tube refill.

Bolt Up!



Chrome moly button head, zinc plated cap screws for rack mounting or general use. Standard use. Standard metric thread. Uses a M3 hex key. Similar to popular American types.

Available in 10, 15 and 20mm lengths. From specialists bicycle dealers.

Trade enquiries: H & L Imports
phone (02) 387 3012.

SAMIRA LYCRA SHORTS



Mail Order Form.

Name _____

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Telephone Bus hrs _____

Please send me the following Samira Shorts in Italian Lycra fabric at \$38.95 pair. Stripes \$5 extra.

Colour _____ Size _____ Qty _____

Colour _____ Size _____ Qty _____

Colour _____ Size _____ Qty _____

Total Quantity _____ @ \$38.95 pair =

Total \$ _____

I enclose a cheque/mail order/Bankcard for the above amount.

Bankcard Authorization

Cardholder's Name _____

Card No _____

Expiry Date _____

Signature _____

Price includes postage and packing. Allow 2-3 weeks for delivery. Please include phone no. so advice can be given if size or colour is temporarily out of stock.

Bicycling style to set you out from the ordinary



Off the floor or custom built, Wooly has a machine that's suited for your style of bicycling. Lightweights, sports bicycles and a superb range of touring machines are available, and all come with our warranty and after sales service. Pictured above is the new *Traveller 10 speed* one in the range of Wooly's lightweight touring machines.



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SAMIRA LYCRA SHORTS IN 10 FASHION COLOURS+BLACK



All colours available in shiny Italian Lycra fabric with generous chamois insert. Colours left to right: SILVER, YELLOW, DARK GREEN, MULBERRY, ROYAL BLUE, BROWN, PINK, STRIPES and other colours such as CORAL made to order, TURQUOISE, DARK BLUE and RED.

Wooly's Wheels

Custom Bicycles

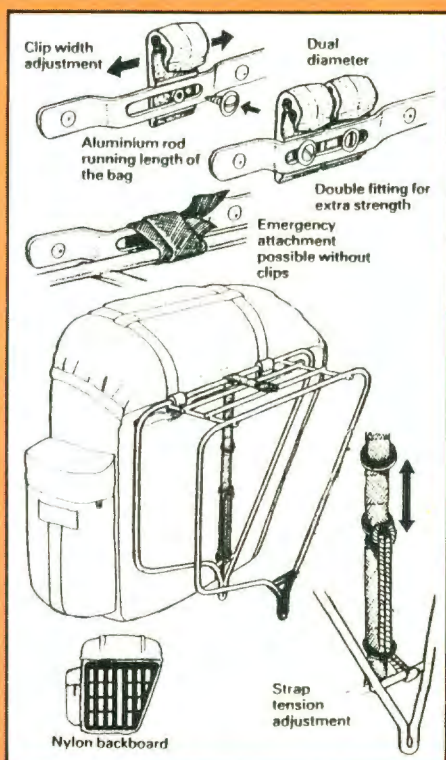
82 Oxford St., Paddington NSW. Telephone (02) 331 2671

See Australia's First Bicycle Boutique
Wooly's shop has had its first refit since opening some years ago. Come along and see bicycle equipment and accessories for touring and racing displayed in an open and attractive environment.
NEW! Large range of clothing for active people.

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Karrimor bags have been designed to provide safe, secure sturdy carrying capacity across Australia and across the world.

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Karrimor's New Suspension System — a breakthrough in the fitting and stability of heavy fully-laden panniers.

Now fitted as standard on Iberian KS 100e and on Standard Silverguard models this exclusive Karrimor design completely solves all those irritating snags that have plagued tourers in the past.

It's tough, reliable, easy to fit and adjust, and it's designed to stand up to the hardest touring stresses. The suspension system is new for 1983.

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KARRIMOR

Karrimor Australia Pty Ltd.

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* Lifetime and 5 year guarantees cannot apply to bags brought by professionals, outdoor centres or activity groups. Not transferable. (KS-100e and Silverguard are registered trade marks.)

KS-100e

KS-100e is made exclusively for Karrimor and combines the appearance of cotton duck with the strength, lightness and proofing of our nylon. We guarantee it for the lifetime of the user*.

SILVAGUARD

Silverguard is designed by Karrimor and is 70% stronger; 10% lighter and more stain resistant than ordinary nylon. We guarantee it for 5 years*.